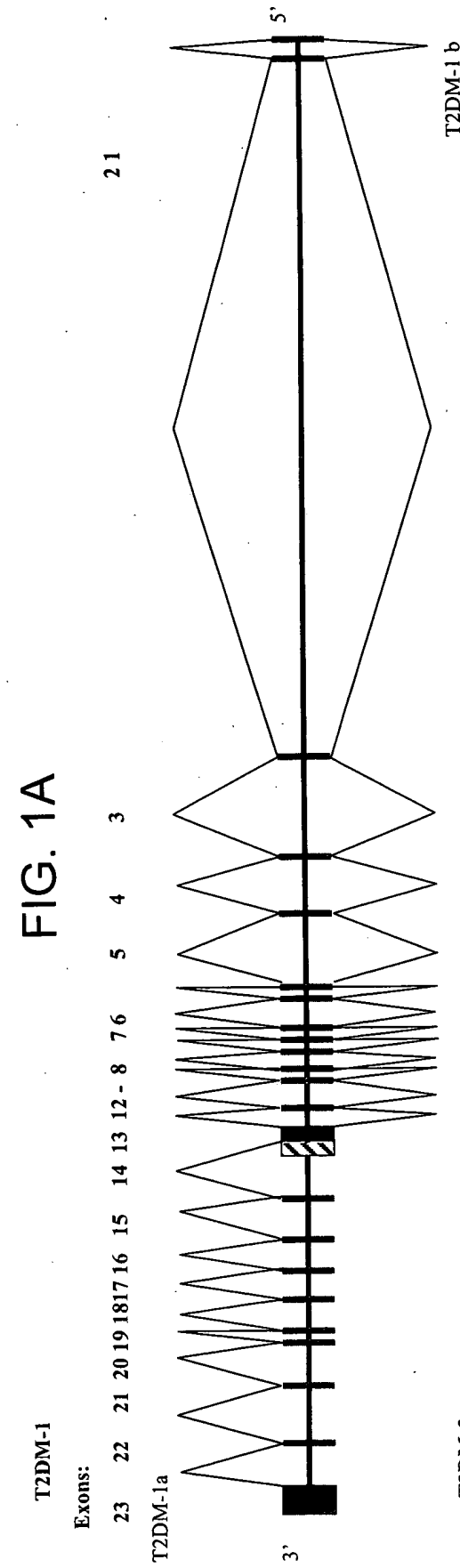


FIG. 1A

FIG. 1B

T2DM-1a: 4211 basepairs (long form, exons 1-24) (SEQ ID NO:1)

AAATCAGATGCTCTGTGATTAATCGTGGAGGATTCAGGACACGACCACAAACGCTGCCAGATAAGAGTCC
CGGCTGCATTATCAGAGCCCGGCAGGGCACCGGCCTCCCTGCACCAGAAGGAAGACTCGGGGCGCAGCAG
GTCCTCAAGGCGATCTTCCCAGAGAGCGGGACCAGCGGCTGGTGGCCAGTGTGGATGGAATTTGCAGAGC
CCTAGCTCGAGTCCGGGAGTCCCGGGCCAGATGGGAGCAGACGCTTGCTGGCGGCAATAGGGAAAGTGAG
GCAGCTGCAAGGAGGGCGGCGGGACTGCACTCGAGTGTCCAGACCTGCTCGATGGTGACCACCATGTCGG
TGAGGTTGCGGTTCCTGTCCCCTGGGGACACAGGGGCCGTGGGGGTCGTGGGCCGGAGCGCCTCCTTCGC
AGGCTTCAGCAGTGCACAGAGCCGGAGGATCGCAAAGTCCATCAACAGGAACTCCGTGAGATCGCGAATG
CCTGCAAAATCCTCCAAGATGTACGGCACGCTGCGGAAGGGGTCGGTCTGTGCAGACCCGAAGCCCCAGC
AGGTGAAGAAGATCTTCGAAGCATTGAAAAGAGGCCTCAAGGAGTATCTGTGTGTGCAGCAGGCTGAGCT
GGACCACCTGTCTGGACGCCACAAAGACACCAGGAGGAATTCCAGGCTGGCTTTCTATTATGACCTGGAC
AAGCAAACGCGCTGTGTGGAAAGGCACATTCGGAAGATGGAGTTTCACATCAGCAAGGTGGATGAGCTGT
ACGAGGACTACTGCATCCAGTGCCGCCTGCGCGACGGCGCCTCCAGCATGCAGCGGGCCTTCGCCCGGTG
CCCCCCGAGCCGCGCAGCCCGAGAGAGCCTGCAGGAGCTGGGCCGCAGCCTGCACGAGTGCGCCGAGGAC
ATGTGGCTCATCGAGGGGGCCCTGGAGGTTCACCTGGGCGAGTTCCACATCAGGATGAAAGGCTTGGTGG
GCTACGCACGCCTCTGTCCCGGAGACCACTATGAGGTGCTCATGCGTCTGGGCCGCCAGCGTTGGAAGCT
CAAGGGTCGGATCGAGTCAGATGACAGCCAGACCTGGGACGAAGAGGAGAAGGCCTTCATCCCCACGCTG
CATGAGAACCTGGACATCAAGGTGACGGAGTTGCGGGGCCTGGGCTCGCTGGCTGTGGGTGCAGTGACGT
GTGACATCGCCGACTTCTTCACGACGCGGCCGCAGGTCATCGTGGTGGACATCACGGAGTTGGGTACCAT
CAAGCTGCAGCTGGAGGTGCAGTGGAACCCGTTTGATACTGAGAGCTTCCTGGTGTCACCCAGCCCCACG
GGCAAGTTTTCTATGGGCAGCAGGAAGGGCTCCTTGTACAACTGGACACCCCCGAGCACCCCCAGCTTCC
GGGAGAGATACTACCTGTCTGTCCTACAGCAGCCAACACAGCAGGCCTTGCTGCTGGGTGGCCCAAGGGC
CACCTCCATCCTCAGCTACCTGTCTGACAGCGACCTCCGGGGTCCCAGCCTAAGAAGCCAGAGTCAGGAG
CTGCCTGAGATGGACTCCTTCAGCTCTGAGGACCCCCGAGACACGGAGACCAGCACGTCGGCGTCCACCT
CAGATGTGGGCTTCCTGCCCTTGACCTTCGGTCCCCACGCCTCCATTGAAGAGGAGGCTCGGGAGGACCC
CCTGCCCCCAGGTCTCCTGCCAGAGATGGCCCACCTCTCTGGAGGCCCGTTTGCAGAGCAGCCTGGCTGG
AGGAACTTAGGAGGGGAGAGCCCCAGCCTGCCACAGGGCTCCCTGTTCCACAGCGGCACAGCCTCGAGTA
GCCAGAACGGCCACGAGGAAGGGGCAACCGGGGACAGAGAGGACGGGCCTGGCGTGGCCCTCGAGGGGCC
TCTGCAGGAGGTCCTGGAGTTGCTGAGGCCCACGGACTCCACCCAGCCCCAGCTCCGGGAGCTGGAGTAC
CAGGTCCTCGGCTTCCGGGACCGGCTGAAGCCCTGCAGAGCACGGCAGGAGCACACCTCGGCCGAGAGCC
TGATGGAGTGCATCCTGGAGAGCTTCGCCTTCCTCAATGCCGACTTCGCCCTGGATGAGCTGTCCCTGTT
TGGGGGCTCCCAGGGTCTCCGAAAGGACCGGCCCCTGCCCCCACCGTCATCACTGAAAGCGTCATCCAGG
GAACTCACAGCCGGTGCCCCAGAGCTGGACGTGCTGCTGATGGTACACCTCCAAGTCTGCAAAGCTCTGC
TGCAGAAACTGGCCTCCCCTAATTTATCAAGGCTGGTCCAGGAATGCCTCCTGGAAGAAGTGGCACAGCA
AAAGCACGTTCTGGAGACACTTTCTGTCCTTGACTTTGAGAAGGTCGGCAAGGCAACATCCATTGAAGAG
ATCATCCCACAGGCCTCGCGGACGAAGGGGTGCCTGAAGCTGTGGAGAGGGTGCACAGGGCCTGGCAGGG
TCCTGTCCTGCCCTGCCACGACGCTGCTGAACCAGCTCAAGAAAACCTTCCAGCACAGAGTCAGAGGGAA
GTACCCAGGACAGCTGGAAATAGCGTGCCGCAGGCTCCTGGAGCAGGTGGTCAGCTGTGGTGGGCTGCTC
CCCGGAGCTGGGCTCCCAGAAGAACAGATCATTACCTGGTTCCAGTTTCACAGCTACCTGCAGAGGCAGA
GCGTCTCTGACCTGGAGAAGCACTTCACCCAGCTCACCAAGGAAGTGACACTCATCGAGGAGCTTCACTG
TGCGGGACAGGCCAAGGTGGTCCGGAAGCTGCAGGGGAAGCGGCTGGGCCAGCTCCAGCCTCTGCCCCAG
ACCTTAAGAGCCTGGGCGCTGCTCCAGCTGGACGGCACTCCGAGGGTGTGCAGGGCGGCCAGCGCTCGCC
TGGCTGGTGCAGTCAGGAACAGAAGCTTCCGGGAAAAGGCTTTGCTGTTCTACACCAACGCCCTGGCAGA
GAACGACGCAAGGCTCCAGCAGGCCGCATGCCTAGCGCTCAAACACCTCAAGGGCATTGAAAGCATCGAC
CAGACTGCCAGCCTGTGCCAGTCTGACCTGGAGGCCGTGCGGGCGGCAGCCCGGGAAACCACACTGTCGT
TCGGTGAAAAAGGACGGTTAGCTTTTGAGAAGATGGACAAGCTCTGCTCAGAACAAAGAGAAGTCTTTTG
CCAGGAGGCAGATGTTGAAATCACAATATTTTAAAAAATCCTGGCTGATGAGCACAAATCTCACATCGTT
TTTTTTGCTGCTGCCCAGCCTGGACATAGCCTGCACTCTGGGTAATGGTGCTGTGCACTCCTCCAGGAGT
GTGAGCTGCCCAGAGCTCTACCTGAGACTCCGGCCATTGACCCAGCCCCAGGGCATGGGCTGGTCTTTTG
TACAGAGGCAGAAAAAAGCAAGGCAAAGGTACAGCATTCCAGGGGCTGCACGGCCTCAACAGAGCGCTCA
ACTTCTGGCTGAGGGTCTGTGTGACCTTCCCCGAGATGCAGAGCTGAGCCAAACTAGGTGGCCACCTACA

FIG. 2A

AAAGGGCCAAGGCCAGGCAAGTTGAGGCCCTAAATAAAAGGCTCCAAGGCAAGTGTGTAGAACTCCAGGC
CTCGCTGCCGGTCAGCTGCTCGGCACTTCTGCGTCAAGAGGCACTGGGGATGCAGCAGGCTGGCAGGTGG
CTGGCCCTGCTAATGCAAGACTGCTCAGGCCATTTCAGCAGCAGCCAGGTGTCACCTTGGTGAGCTGGGG
AAGGTGGGAAGGCACAAAGCCAGGGTTTCTACAACCACACTCTCAGCCCGACTGACTTGCTGCGAGTGCT
GGTGGAGCTCACAGACGGCGGCTGGTGGATGGTGGACTGTGAACCTCACTTTCCCTATGTTCAGCAGCAC
AAAGGGAAGAAGCCACCACATCAGCCCAGGAGCCCTGAGCAGCACAGGCAGTAGGGCCACTCACTTTGGC
CATCCGCACCCAAATGCAATCAATCAACCCAGCTTCGGAAGCTACCCTAGGATCTCGTCAATAAACTGCT
AAGAAGCCATCAACTGGCCTAAAGAAAGAGTTCACTGAAGAACGCAATTGCTTTAAAGAAAGAAAAATTA
GTTTCCTATTTAAGTCTTAAAAAAAAAGCAAACCATGTCCTGAGATGTCTGTGTTAATAGTGCAGAGAGAA
CCTAGGGTTTGAGGTTGCTGTAGCAATGGCATTGGAGAACTTTAACTTGAACATTCTCATCGATACTTCC
TGGACATATTT

T2DM-1a: 946 amino acids (long form, exons 1-24) (SEQ ID NO:2)

M S V R L R F L S P G D T G A V G V V G R S A S F A G F S S A Q S R R
I A K S I N R N S V R S R M P A K S S K M Y G T L R K G S V C A D P K
P Q Q V K K I F E A L K R G L K E Y L C V Q Q A E L D H L S G R H K D
T R R N S R L A F Y Y D L D K Q T R C V E R H I R K M E F H I S K V D
E L Y E D Y C I Q C R L R D G A S S M Q R A F A R C P P S R A A R E S
L Q E L G R S L H E C A E D M W L I E G A L E V H L G E F H I R M K G
L V G Y A R L C P G D H Y E V L M R L G R Q R W K L K G R I E S D D S
Q T W D E E E K A F I P T L H E N L D I K V T E L R G L G S L A V G A
V T C D I A D F F T T R P Q V I V V D I T E L G T I K L Q L E V Q W N
P F D T E S F L V S P S P T G K F S M G S R K G S L Y N W T P P S T P
S F R E R Y Y L S V L Q Q P T Q Q A L L L G G P R A T S I L S Y L S D
S D L R G P S L R S Q S Q E L P E M D S F S S E D P R D T E T S T S A
S T S D V G F L P L T F G P H A S I E E E A R E D P L P P G L L P E M
A H L S G G P F A E Q P G W R N L G G E S P S L P Q G S L F H S G T A
S S S Q N G H E E G A T G D R E D G P G V A L E G P L Q E V L E L L R
P T D S T Q P Q L R E L E Y Q V L G F R D R L K P C R A R Q E H T S A
E S L M E C I L E S F A F L N A D F A L D E L S L F G G S Q G L R K D
R P L P P P S S L K A S S R E L T A G A P E L D V L L M V H L Q V C K
A L L Q K L A S P N L S R L V Q E C L L E E V A Q Q K H V L E T L S V
L D F E K V G K A T S I E E I I P Q A S R T K G C L K L W R G C T G P
G R V L S C P A T T L L N Q L K K T F Q H R V R G K Y P G Q L E I A C
R R L L E Q V V S C G G L L P G A G L P E E Q I I T W F Q F H S Y L Q
R Q S V S D L E K H F T Q L T K E V T L I E E L H C A G Q A K V V R K
L Q G K R L G Q L Q P L P Q T L R A W A L L Q L D G T P R V C R A A S
A R L A G A V R N R S F R E K A L L F Y T N A L A E N D A R L Q Q A A
C L A L K H L K G I E S I D Q T A S L C Q S D L E A V R A A A R E T T
L S F G E K G R L A F E K M D K L C S E Q R E V F C Q E A D V E I T I
F*

T2DM-1b: 2278 basepairs (short form, exons 1-14) (SEQ ID NO:3)
AAATCAGATGCTCTGTGATTAATCGTGGAGGATTCAGGACACGACCACAAACGCTGCCAGATAAGAGTCC
CGGCTGCATTATCAGAGCCCGGCAGGGCACCGGCCTCCCTGCACCAGAAGGAAGACTCGGGGCGCAGCAG
GTCCTCAAGGCGATCTTCCCAGAGAGCGGGACCAGCGGCTGGTGGCCAGTGTGGATGGAATTTGCAGAGC
CCTAGCTCGAGTCCGGGAGTCCCGGGCCAGATGGGAGCAGACGCTTGCTGGCGGCAATAGGGAAAGTGAG
GCAGCTGCAAGGAGGGCGGCGGGACTGCACTCGAGTGTCCAGACCTGCTCGATGGTGACCACCATGTCGG
TGAGGTTGCGGTTCCTGTCCCCTGGGGACACAGGGGCCGTGGGGGTCGTGGGCCGGAGCGCCTCCTTCGC

FIG. 2B

AGGCTTCAGCAGTGCACAGAGCCGGAGGATCGCAAAGTCCATCAACAGGAACTCCGTGAGATCGCGAATG
CCTGCAAAATCCTCCAAGATGTACGGCACGCTGCGGAAGGGGTCGGTCTGTGCAGACCCGAAGCCCCAGC
AGGTGAAGAAGATCTTCGAAGCATTGAAAAGAGGCCTCAAGGAGTATCTGTGTGTGCAGCAGGCTGAGCT
GGACCACCTGTCTGGACGCCACAAAGACACCAGGAGGAATTCCAGGCTGGCTTTCTATTATGACCTGGAC
AAGCAAACGCGCTGTGTGGAAAGGCACATTCGGAAGATGGAGTTTCACATCAGCAAGGTGGATGAGCTGT
ACGAGGACTACTGCATCCAGTGCCGCCTGCGCGACGGCGCCTCCAGCATGCAGCGGGCCTTCGCCCGGTG
CCCCCCGAGCCGCGCAGCCCGAGAGAGCCTGCAGGAGCTGGGCCGCAGCCTGCACGAGTGCGCCGAGGAC
ATGTGGCTCATCGAGGGGGCCCTGGAGGTTCACCTGGGCGAGTTCCACATCAGGATGAAAGGCTTGGTGG
GCTACGCACGCCTCTGTCCCGGAGACCACTATGAGGTGCTCATGCGTCTGGGCCGCCAGCGTTGGAAGCT
CAAGGGTCGGATCGAGTCAGATGACAGCCAGACCTGGGACGAAGAGGAGAAGGCCTTCATCCCCACGCTG
CATGAGAACCTGGACATCAAGGTGACGGAGTTGCGGGGCCTGGGCTCGCTGGCTGTGGGTGCAGTGACGT
GTGACATCGCCGACTTCTTCACGACGCGGCCGCAGGTCATCGTGGTGGACATCACGGAGTTGGGTACCAT
CAAGCTGCAGCTGGAGGTGCAGTGGAACCCGTTTGATACTGAGAGCTTCCTGGTGTCACCCAGCCCCACG
GGCAAGTTTTCTATGGGCAGCAGGAAGGGCTCCTTGTACAACTGGACACCCCCGAGCACCCCCAGCTTCC
GGGAGAGATACTACCTGTCTGTCCTACAGCAGCCAACACAGCAGGCCTTGCTGCTGGGTGGCCCAAGGGC
CACCTCCATCCTCAGCTACCTGTCTGACAGCGACCTCCGGGGTCCCAGCCTAAGAAGCCAGAGTCAGGAG
CTGCCTGAGATGGACTCCTTCAGCTCTGAGGACCCCCGAGACACGGAGACCAGCACGTCGGCGTCCACCT
CAGATGTGGGCTTCCTGCCCTTGACCTTCGGTCCCCACGCCTCCATTGAAGAGGAGGCTCGGGAGGACCC
CCTGCCCCCAGGTCTCCTGCCAGAGATGGCCCACCTCTCTGGAGGCCCGTTTGCAGAGCAGCCTGGCTGG
AGGAACTTAGGAGGGGAGAGCCCCAGCCTGCCACAGGGCTCCCTGTTCCACAGCGGCACAGCCTCGAGTA
GCCAGAACGGCCACGAGGAAGGGGCAACCGGGGACAGAGAGGACGGGCCTGGCGTGGCCCTCGAGGGGCC
TCTGCAGGAGGTCCTGGAGTTGCTGAGGCCCACGGACTCCACCCAGCCCCAGCTCCGGGAGCTGGAGTAC
CAGGTCCTCGGCTTCCGGGACCGGCTGAAGGTATGGCCACCCCGCCCCGGGCGGTGGCCCTGCTTTGCTG
ATGGCATGATGACTGGGAGTCGGGGGCTCTGGGGCCACGCAGCCTGGGCCGACATCCTGGCCTCACCTCT
GCGTGACCTGGGTGGGCCGTGTCTCTCTGGGCCTTGGTTTCCTCATCTGGCAAGCGGGGATAACAACAGC
CCTCATGGGGCTCAGGAAGATTTTAAGAGTTCACAGTAGATAGGCTCATGCACATCCAGCCAGAAACTGG
CCCCATCTCGCACCTTCTGACCTGGGTGGGCGGGGCTG

T2DM-1b: 625 amino acids (short form, exons 1-14) (SEQ ID NO:4)

M S V R L R F L S P G D T G A V G V V G R S A S F A G F S S A Q S R R
I A K S I N R N S V R S R M P A K S S K M Y G T L R K G S V C A D P K
P Q Q V K K I F E A L K R G L K E Y L C V Q Q A E L D H L S G R H K D
T R R N S R L A F Y Y D L D K Q T R C V E R H I R K M E F H I S K V D
E L Y E D Y C I Q C R L R D G A S S M Q R A F A R C P P S R A A R E S
L Q E L G R S L H E C A E D M W L I E G A L E V H L G E F H I R M K G
L V G Y A R L C P G D H Y E V L M R L G R Q R W K L K G R I E S D D S
Q T W D E E E K A F I P T L H E N L D I K V T E L R G L G S L A V G A
V T C D I A D F F T T R P Q V I V V D I T E L G T I K L Q L E V Q W N
P F D T E S F L V S P S P T G K F S M G S R K G S L Y N W T P P S T P
S F R E R Y Y L S V L Q Q P T Q Q A L L L G G P R A T S I L S Y L S D
S D L R G P S L R S Q S Q E L P E M D S F S S E D P R D T E T S T S A
S T S D V G F L P L T F G P H A S I E E E A R E D P L P P G L L P E M
A H L S G G P F A E Q P G W R N L G G E S P S L P Q G S L F H S G T A
S S S Q N G H E E G A T G D R E D G P G V A L E G P L Q E V L E L L R
P T D S T Q P Q L R E L E Y Q V L G F R D R L K V W P P R P G R W P C
F A D G M M T G S R G L W G H A A W A D I L A S P L R D L G G P C L S
G P W F P H L A S G D N N S P H G A Q E D F K S S Q

FIG. 2C

T2DM-2a: 828 basepairs (long form, exons 1-4) (SEQ ID NO:5)

GGAGAGGAAGCCAGATGCTCCCAGACACTGGGGACTGTCCTGGGCCTCCGTCCCCAAGGTGTGGCTGGAG
GAAGCAGAGTCTACTCCCGCTAAGTCTGTCCGCTCACTGCTGGCCAAAGCTGCCCTGCGTCTCCTCCCCA
CCGCCAGCCAGAGGGAACCTGCAATTTCACCTCATTTAGAGCATCCGGAGCCCAGGACTGCTCAGTCAAC
CCTCTGGAATGCCCACAACTCCCCACAGGCCAGCCGGCCTTGGGACTCCCGCACAGCCACGTGAGCCGGT
GGAGCCGGGTCTGTTTGCTAGTGGAGGCTGTTAACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATG
AGCCATCTGGTCCTCCAGAGGTTGTGACTTCAATATACCCTCTCATGAGACCTTTCCTGGCCCCTTATCT
GTGGAGGAGGCACGTGACCCACATGGTCTGGCCACTGATGACTGAACAAGCTATGGACACCGGACCCCGG
AGAGACCATTCACTCACTGGCCACGAACATGAGTTCAGATACATGCCCCAAAAGGATGAGCCTGGGTACT
GGATTCCCTCCCTCAGAAACGTGAATCAAGAGACACAGGATGTTCCTGTTGGTCCAGATACTTGAGCTAA
AAGGTGATGGATACCTGGATGTGGGGTGGTCATTCTGGGGAGTACGTCCATATAGAAAGAGGAGCAGGTG
CTGTGGGATTCTGGATCCCAGTGATAGAGCTAAGTGGCTGGATCAAGCTTCACCTGAAACCCACTCTACT
TGTCTTAGTCCATTTTGTGTTGCTATAAAAGAATACCTGCAACTGGGTAATGTATAAA

T2DM-2b: 597 basepairs (short form, exons 2 & 4) (SEQ ID NO:6)

CATCCGGAGCCCAGGACTGCTCAGTCAACCCTCTGGAATGCCCACAACTCCCCACAGGCCAGCCGGCCTT
GGGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTGCTAGTGGAGGCTGTTAACAGCACG
GGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCATCTGGTCCTCCAGAGGTGGAGGAGGCACGTGACCCA
CATGGTCTGGCCACTGATGACTGAACAAGCTATGGACACCGGACCCCGGAGAGACCATTCACTCACTGGC
CACGAACATGAGTTCAGATACATGCCCCAAAAGGATGAGCCTGGGTACTGGATTCCCTCCCTCAGAAACG
TGAATCAAGAGACACAGGATGTTCCTGTTGGTCCAGATACTTGAGCTAAAAGGTGATGGATACCTGGATG
TGGGGTGGTCATTCTGGGGAGTACGTCCATATAGAAAGAGGAGCAGGTGCTGTGGGATTCTGGATCCCAG
TGATAGAGCTAAGTGGCTGGATCAAGCTTCACCTGAAACCCACTCTACTTGTCTTAGTCCATTTTGTGTT
GCTATAAAAGAATACCTGCAACTGGGTAATGTATAAA

FIG. 2D

Gene Organization:

T2DM-1a				
Exon	Begins cDNA	Ends cDNA	Begins Genomic*	Ends Genomic*
1	1	55	49036730	49036676
2	56	334	49036419	49036141
3	335	453	48975871	48975753
4	454	600	48965147	48965001
5	601	679	48961095	48961017
6	680	703	48956219	48956196
7	704	757	48955921	48955868
8	758	907	48954737	48954588
9	908	971	48954371	48954308
10	972	1141	48953970	48953628
12	1142	1287	48953549	48953404
13	1288	1417	48949789	48949660
14	1418	1990	48947659	48947087
15	1991	2121	48942725	48942595
16	2122	2245	48941278	48941155
17	2246	2381	48940519	48940384
18	2382	2543	48939729	48939568
19	2544	2705	48938211	48938050
20	2706	2908	48937561	48937359
21	2909	2992	48934784	48934701
22	2993	3083	48932907	48932817
23	3084	4211	48932347	48931220

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC versoin hg11)

FIG. 3A

T2DM-1b				
Exon	Begins cDNA	Ends cDNA	Begins Genomic*	Ends Genomic*
1	1	55	49036730	49036676
2	56	334	49036419	49036141
3	335	453	48975871	48975753
4	454	600	48965147	48965001
5	601	679	48961095	48961017
6	680	703	48956219	48956196
7	704	757	48955921	48955868
8	758	907	48954737	48954588
9	908	971	48954371	48954308
10	972	1141	48953970	48953628
12	1142	1287	48953549	48953404
13	1288	1417	48949789	48949660
14	1418	2278	48947659	48946799

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC version hg11)

FIG. 3B

Gene Organization:

T2DM-2a				
Exon	Begins cDNA	Ends cDNA	Begins Genomic*	Ends Genomic*
1	1	181	48981701	48981881
2	182	370	48990713	48990901
3	371	420	48998961	48999010
4	421	828	49004881	49005288

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC versoin hg11)

T2DM-2b				
Exon	Begins cDNA	Ends cDNA	Begins Genomic*	Ends Genomic*
1	1	189	48990713	48990901
2	190	597	49004881	49005288

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC versoin hg11)

FIG. 3C

SNP1
-TTGA (IN/DEL)

TCAAACCCTAGGTTCTCTCTGCACTATTAACACAGACATCTCAGGACATGGTTTGCTTTT
TTTTAAGACTTAAATAGGAAACTAATTTTTCTTTCTTTAAAGCAATTGCGTTCTTCAGTG
AACTCTTTCTTTAGGCCAGTTGATGGCTTCTTAGCAGTTTATTGACGAGATCCTAGGGTA
GCTTCCGAAGCTGGGTTGATTGATTGCATTTGGGTGCGGATGGCCAAAGTGAGTGGCCCT
ACTGCCTGTGCTGCTCAGGGCTCCTGGGCTGATGTGGTGGCTTCTTCCCTTTGTGCTGCT
GAACATAGGGAAAGTGAGGTTCACAGTCCACCATCCACCAGCCGCCGTCTGTGAGCTCCA
CCAGCACTCGCAGCAAGTCAGTCGGGCTGAGAGTGTGGTTGTA (SEQ ID NO:9)

TCAAACCCTAGGTTCTCTCTGCACTATTAACACAGACATCTCAGGACATGGTTTGCTTTT
TTTTAAGACTTAAATAGGAAACTAATTTTTCTTTCTTTAAAGCAATTGCGTTCTTCAGTG
AACTCTTTCTTTAGGCCAGTTGATGGCTTCTTAGCAGTTTATTGACGAGATCCTAGGGTA
GCTTCCGAAGCTGGGTTGATTGCATTTGGGTGCGGATGGCCAAAGTGAGTGGCCCTACTG
CCTGTGCTGCTCAGGGCTCCTGGGCTGATGTGGTGGCTTCTTCCCTTTGTGCTGCTGAAC
ATAGGGAAAGTGAGGTTCACAGTCCACCATCCACCAGCCGCCGTCTGTGAGCTCCACCAG
CACTCGCAGCAAGTCAGTCGGGCTGAGAGTGTGGTTGTA (SEQ ID NO:10)

SNP2
A/G

CCTAACCAGCTTCTCCTCTTAGAATTTCCTGCTGATCCATCCCAGAATGAATGGGAGTTC
AATCTGTACTGAATTATCTTTCATCTAGCAATTGTGCAATTCCAAATGCAGGTGAGGTTG
AGGGAAAGCGGGCATCCCCTCACATCCATGGGATCTATGTGTGGGTTGTATCAAGAGTCT
CAAAAATGCTCATATTCTCCAGTCCTAGAATTGGGTCTAGCCTAAGGAAATAATTCAGAA
CTCCATGTTTTTTTAAAGCTTTATGCACAAACATGATCATAAGACATGATTTATGATAAA
AATTGGATGAAGTAAACTTTCCTATGAAAGCAGCTGAGTAGGTTAAATTAAGGTATACAC
TTGATAGCCCCTTCATAAAGAATTCTCAAGTGAAAAAAAAA (SEQ ID NO:11)

CCTAACCAGCTTCTCCTCTTAGAATTTCCTGCTGATCCATCCCAGAATGAATGGGAGTTC
AATCTGTACTGAATTATCTTTCATCTAGCAATTGTGCAATTCCAAATGCAGGTGAGGTTG
AGGGAAAGCGGGCATCCCCTCACATCCATGGGATCTATGTGTGGGTTGTATCAAGAGTCT
CAAAAATGCTCATATTCTCCGGTCCTAGAATTGGGTCTAGCCTAAGGAAATAATTCAGAA
CTCCATGTTTTTTTAAAGCTTTATGCACAAACATGATCATAAGACATGATTTATGATAAA
AATTGGATGAAGTAAACTTTCCTATGAAAGCAGCTGAGTAGGTTAAATTAAGGTATACAC
TTGATAGCCCCTTCATAAAGAATTCTCAAGTGAAAAAAAAA (SEQ ID NO:12)

FIG. 4A

SNP3
A/G

CACCTGCAGTCCCCACAACAACCTGGGAGGGGCTGCTGTCACCAGCCTCTCCTTACAGAC
AAGGAACCTGGCCTTCTGAGGGGAGGTCCCACGGGGCAGAGGCACAGCTGGGATCACAGC
TACTGTTTGACGGCACATTCTGCACCTTGAATGTGGCCTGGGGTTACCTCACTGAACCCC
GTGCAGTGCCCTCCTCCTATACAGATAGGGAAGCAGAGGCTCAGAGATGTGAATCATTTG
CCTAGAGTCACACAGCTGACTGAAGAGTGTGCTGCAACTCCAGGACTTGTCTCCCTTACC
TCCCCACAAAGAGTGTGTATCTCTGAGCCCAGCCCAGCCACAGCCTCCACTCTGGGCCCC
GATTAACTCTGGCTATTAGGAAGGCAGAAGAGGCTCCCCGA (SEQ ID NO:13)

CACCTGCAGTCCCCACAACAACCTGGGAGGGGCTGCTGTCACCAGCCTCTCCTTACAGAC
AAGGAACCTGGCCTTCTGAGGGGAGGTCCCACGGGGCAGAGGCACAGCTGGGATCACAGC
TACTGTTTGACGGCACATTCTGCACCTTGAATGTGGCCTGGGGTTACCTCACTGAACCCC
GTGCAGTGCCCTCCTCCTATGCAGATAGGGAAGCAGAGGCTCAGAGATGTGAATCATTTG
CCTAGAGTCACACAGCTGACTGAAGAGTGTGCTGCAACTCCAGGACTTGTCTCCCTTACC
TCCCCACAAAGAGTGTGTATCTCTGAGCCCAGCCCAGCCACAGCCTCCACTCTGGGCCCC
GATTAACTCTGGCTATTAGGAAGGCAGAAGAGGCTCCCCGA (SEQ ID NO:14)

SNP4
A/G

ATGTGCGGGGATGGCATGGGGAAGGGTGCACGATAGAGTGACAAGAGCTGAGCCAAGGAC
AGTGGGAGAAACAGACGGGGAGGCTGGCAGGAAACGTGGAGCTCGGGTCACCCGGTGGGA
GTGGTGGCCACTGGGTCACTGCTGGAAGGAGGTGCACTCACCGGAGACCCTGGGAGCCCC
CAAACAGGGACAGCTCATCCAGGGCGAAGTCGGCATTGAGGAAGGCGAAGCTCTCCAGGA
TGCACTCCATCAGGCTCTCGGCCGAGGTGTGCTCCTGCCGTGCTCTGCAGGGCTGTGGAC
GAAGTGGCCAGACCTGAGGGCAACACCGGGCCCCACCCACCCGACTGGGACACTGGCCAG
GGGCCTCACGGCAGACTTGGGCAATGTCCCGGTCCCAAGCC (SEQ ID NO:15)

ATGTGCGGGGATGGCATGGGGAAGGGTGCACGATAGAGTGACAAGAGCTGAGCCAAGGAC
AGTGGGAGAAACAGACGGGGAGGCTGGCAGGAAACGTGGAGCTCGGGTCACCCGGTGGGA
GTGGTGGCCACTGGGTCACTGCTGGAAGGAGGTGCACTCACCGGAGACCCTGGGAGCCCC
CAAACAGGGACAGCTCATCCGGGGCGAAGTCGGCATTGAGGAAGGCGAAGCTCTCCAGGA
TGCACTCCATCAGGCTCTCGGCCGAGGTGTGCTCCTGCCGTGCTCTGCAGGGCTGTGGAC
GAAGTGGCCAGACCTGAGGGCAACACCGGGCCCCACCCACCCGACTGGGACACTGGCCAG
GGGCCTCACGGCAGACTTGGGCAATGTCCCGGTCCCAAGCC (SEQ ID NO:16)

SNP5
A/C

FIG. 4B

GCCAATTCCCGTGCCCCTCAGCAGAAGTCTCAGGGCCTCCAGAAAGGCCTCCGCCCACCC
CCTCTCAGCCCTGTTACCTTTCATCCTGATGTGGAACTCGCCCAGGTGAACCTCCAGGGC
CCCCTCGATGAGCCACATGTCCTGCAAAGCCCCGGAGGTGGCTCAGCTGGCTGCCTGGGG
CTAGGCCACGAGGGCCTCTAACCATCCCTGCAGCCAGACAGAGGCCACAGGCAGAGAGAC
GCCTCCTTGGGGCCCAGAACACCTCCTCCAGCCCCCACTGGCCCAGCTCTCGATGTCCCC
ACTGCCCGGCCCAGCTCTTGCTGCCCCTGCTGCCCAGCCCAGCTTGGCCCGGCCCACCTC
GGCGCACTCGTGCAGGCTGCGGCCCAGCTCCTGCAGGCTCT (SEQ ID NO:17)

GCCAATTCCCGTGCCCCTCAGCAGAAGTCTCAGGGCCTCCAGAAAGGCCTCCGCCCACCC
CCTCTCAGCCCTGTTACCTTTCATCCTGATGTGGAACTCGCCCAGGTGAACCTCCAGGGC
CCCCTCGATGAGCCACATGTCCTGCAAAGCCCCGGAGGTGGCTCAGCTGGCTGCCTGGGG
CTAGGCCACGAGGGCCTCTACCCATCCCTGCAGCCAGACAGAGGCCACAGGCAGAGAGAC
GCCTCCTTGGGGCCCAGAACACCTCCTCCAGCCCCCACTGGCCCAGCTCTCGATGTCCCC
ACTGCCCGGCCCAGCTCTTGCTGCCCCTGCTGCCCAGCCCAGCTTGGCCCGGCCCACCTC
GGCGCACTCGTGCAGGCTGCGGCCCAGCTCCTGCAGGCTCT (SEQ ID NO:18)

SNP6
-TTAGTGCCGGGCCGGC (IN/DEL)

CACTGCCCCACCCCACCCTGCAACATCCACGAGCCAGCTGACCTTGCTGATGTGAAACTC
CATCTTCCGAATGTGCCTTTCCACACAGCGCGTTTGCTTCTCCCGGAAAAAGGGAAGATG
TTTGCAAAGTTGCCTGGGCCACCCACCTGCCCCGCTTGCCCCTGCCACCCTCCTACAGGT
CCTAACTCAGAGAATGGGGCTTAGTGCCGGGCCGGCCCCTCACCATCCCTGAGGAAGGCT
CATCGCAGAGACTCAGCCTTCCCATTCCTAAAATGGGGAGGAGACCCAGGTTTTCTGCCC
ATCAGGCAGCCAGGAAGATGCAATGAGGCACAGTCATTCTCATCCAGCCAGGCCCAGCCC
ACCTCACTCACCGTATGCAGACTCACCTTGTCCAGGTCATAATAGAAAGCCTGTGA
(SEQ ID NO:19)

CACTGCCCCACCCCACCCTGCAACATCCACGAGCCAGCTGACCTTGCTGATGTGAAACTC
CATCTTCCGAATGTGCCTTTCCACACAGCGCGTTTGCTTCTCCCGGAAAAAGGGAAGATG
TTTGCAAAGTTGCCTGGGCCACCCACCTGCCCCGCTTGCCCCTGCCACCCTCCTACAGGT
CCTAACTCAGAGAATGGGGCCCCTCACCATCCCTGAGGAAGGCTCATCGCAGAGACTCAG
CCTTCCCATTCCTAAAATGGGGAGGAGACCCAGGTTTTCTGCCCATCAGGCAGCCAGGAA
GATGCAATGAGGCACAGTCATTCTCATCCAGCCAGGCCCAGCCCACCTCACTCACCGTAT
GCAGACTCACCTTGTCCAGGTCATAATAGAAAGCCTGTGA (SEQ ID NO:20)

SNP7
A/G

CAGCGGCAGAGGCCACTGTGACATACCCAAGATGTGACACCTGACCCACTTTCCTGGCAT
TACAGAAGCCATCCCAAGTCCAGGTCACCTGATGGCCAAGGTCTATAAAATAGGACCACC
TAAAAGAAATGCACCTCCATACACTGCCCACCTTAGCATTACTTCTAGAACCGAGAGACA

FIG. 4C

GTGTGACATGGGCCTAAAACATGTGAACTGCTGTACGTGCCAAAGTGAAGTTAACTCAGT
GCAACGTGAAGAGGCTATTCCATAAACCTCTAGTTCTGAGAAAGAGTCACACCGTGACAT
AGGCTAGAAGGAACGCAGGGTTCATCTTTTACTCCTGGCCAAGGCTATCTGGGTGGGAAG
CAGGCAGGGAGGGGTCTCACCAGCCTGGAATTCCTCCTGGT (SEQ ID NO:21)

CAGCGGCAGAGGCCACTGTGACATACCCAAGATGTGACACCTGACCCACTTTCCTGGCAT
TACAGAAGCCATCCCAAGTCCAGGTCACCTGATGGCCAAGGTCTATAAAATAGGACCACC
TAAAAGAAATGCACCTCCATACACTGCCCACCTTAGCATTACTTCTAGAACCGAGAGACA
GTGTGACATGGGCCTAAAACGTGTGAACTGCTGTACGTGCCAAAGTGAAGTTAACTCAGT
GCAACGTGAAGAGGCTATTCCATAAACCTCTAGTTCTGAGAAAGAGTCACACCGTGACAT
AGGCTAGAAGGAACGCAGGGTTCATCTTTTACTCCTGGCCAAGGCTATCTGGGTGGGAAG
CAGGCAGGGAGGGGTCTCACCAGCCTGGAATTCCTCCTGGT (SEQ ID NO:22)

SNP8
A/G

CTCTGCAGTGCGTGCTCCACAAGATCAGAGTCCTCCTGCCTTAGTCACTGCCAGGTTTCC
AGTGCCCAAGGACCGGGCTGAGCACGCGGCTGCACCCTGACATACTTGCTTACTAAACGA
ATGACCAGGAACTTAACCTGTCACCTCTTGTAGACAAGACCCATCCACGCTTCCCCAGGA
AGAGACAGAGAGGAGGCGAGATAGAGGAATGCACTTCTTAAAGGCAGCACACAGCCCAGC
CTTACTTGAGGCCTCTTTTCAATGCTTCGAAGATCTTCTTCACCTGCTGGGGCTTCGGGT
CTGCACAGACCGACCCCTTCCGCAGCGTGCCGTACATCTTGGAGGATTTTGCAGGCATTC
GCGATCTCACGGAGTTCCTGTTGATGGACTTTCTGTGAGAA (SEQ ID NO:23)

CTCTGCAGTGCGTGCTCCACAAGATCAGAGTCCTCCTGCCTTAGTCACTGCCAGGTTTCC
AGTGCCCAAGGACCGGGCTGAGCACGCGGCTGCACCCTGACATACTTGCTTACTAAACGA
ATGACCAGGAACTTAACCTGTCACCTCTTGTAGACAAGACCCATCCACGCTTCCCCAGGA
AGAGACAGAGAGGAGGCGAGGTAGAGGAATGCACTTCTTAAAGGCAGCACACAGCCCAGC
CTTACTTGAGGCCTCTTTTCAATGCTTCGAAGATCTTCTTCACCTGCTGGGGCTTCGGGT
CTGCACAGACCGACCCCTTCCGCAGCGTGCCGTACATCTTGGAGGATTTTGCAGGCATTC
GCGATCTCACGGAGTTCCTGTTGATGGACTTTCTGTGAGAA (SEQ ID NO:24)

SNP9
A/C

AGGAACAAACAGAGTCAGACCAAATCTCCATGACAGTGAGTTCCTGGATCTAGCTATGTC
TAAAGCTGAACCTGCCCGTGGACTTTGCAGTTACATGAGCCAACTGGCTCTCTTTTTTAG
CTTAAGCCAGCTGGAGTTGGGAGTGTGGACTGGATGATCCTAAAAACTGCCTTTCAGTGG
TGATGGCTGGGTCCCTCAACATTTAGAGATGTAGCAGCATCTCAAGACTGATTATAGGAG
TACGAGGCCAGGGCACCCTCATCACAGCACAGAGCTGGTTTCCCTGGCATCTAAGCCTCT
TCTCAGGATCCCATAACTTATCCATGAGGCTGGCTGATGCAGCCTTTGCTCACCAACAGA
TGTGTTGAATTCTGCTCTTAGCCCTCTAAAGCCATCAGCCA (SEQ ID NO:25)

FIG. 4D

AGGAACAAACAGAGTCAGACCAAATCTCCATGACAGTGAGTTCCTGGATCTAGCTATGTC
TAAAGCTGAACCTGCCCGTGGACTTTGCAGTTACATGAGCCAACTGGCTCTCTTTTTTAG
CTTAAGCCAGCTGGAGTTGGGAGTGTGGACTGGATGATCCTAAAAACTGCCTTTCAGTGG
TGATGGCTGGGTCCCTCAACCTTTAGAGATGTAGCAGCATCTCAAGACTGATTATAGGAG
TACGAGGCCAGGGCACCCTCATCACAGCACAGAGCTGGTTTCCCTGGCATCTAAGCCTCT
TCTCAGGATCCCATAACTTATCCATGAGGCTGGCTGATGCAGCCTTTGCTCACCAACAGA
TGTGTTGAATTCTGCTCTTAGCCCTCTAAAGCCATCAGCCA (SEQ ID NO:26)

SNP10
C/T

TCTTGGGGCATCAACTTAAACCCTTCCCAGGCTCCCCTCCACTGAGAATGTGTCTCAAGG
CCTCACTGCAGCCCATGAGGCTCCGCAGGGTCCTCCTCCCTCCCTGACTGCTGTCACGCA
TGCCAGCCGCACACCTGCTTTCTGTCCCTTAAAGCTCATTCCCACCCAGGACATCTGCAC
TCGCAGCTGCCTCCCGCCGCCGAAGGCTTCCCGGCCCACCCCCATCTGCACACGCGCAGA
TCCACTTCTTCTGTCCCTTCCTGCCTCCACTCCCCATGCCCCTGTCTCGTCAGGCTCTCC
CAGGAGACCATGGGTGCCCTCCCCCACCCCCAGTTCAGTTCCCTCACAGCACTGCCACCA
GCTGGATCTGTCTCAATTATCACTGGCTTATTGTTTGCTGC (SEQ ID NO:27)

TCTTGGGGCATCAACTTAAACCCTTCCCAGGCTCCCCTCCACTGAGAATGTGTCTCAAGG
CCTCACTGCAGCCCATGAGGCTCCGCAGGGTCCTCCTCCCTCCCTGACTGCTGTCACGCA
TGCCAGCCGCACACCTGCTTTCTGTCCCTTAAAGCTCATTCCCACCCAGGACATCTGCAC
TCGCAGCTGCCTCCCGCCGCTGAAGGCTTCCCGGCCCACCCCCATCTGCACACGCGCAGA
TCCACTTCTTCTGTCCCTTCCTGCCTCCACTCCCCATGCCCCTGTCTCGTCAGGCTCTCC
CAGGAGACCATGGGTGCCCTCCCCCACCCCCAGTTCAGTTCCCTCACAGCACTGCCACCA
GCTGGATCTGTCTCAATTATCACTGGCTTATTGTTTGCTGC (SEQ ID NO:28)

SNP11
C/T

GTTTCTGTCTGCTGGTTGTTAAACACGTATGAGCTCCTCACTGCTGTTACCCCTATCAGC
ACCTATGCAGGGCCTGAGAAGCTGCTCAAACTGCTTGATCCCCCCAGCCAAGCCAGGCAA
GAGAATAAGGACGGAGTAGGGAGGGATTCCCAAAGGTGAGTAGTTGAGACGTACTCCGGA
GCCAGCCTGGGCACTGGAGCCGGAAGGGGCTTCCCCGGCCCCTCCCTCTGCACCTTCCCA
TCAGAAGCCTTCTGGGCCGTTCCTGGAGCTTCACCCCAGTCACTCCACTTCAAGGTCAGA
GAGAAGGACAATTGCTAAGCAGTTCCTCCCGATGCAAAGCTCAAAACAAGCCCCAGGTCC
TCCTGCTCAGTGTGAGAGAGAGGACGACGAAGGAGGGAAAC (SEQ ID NO:29)

GTTTCTGTCTGCTGGTTGTTAAACACGTATGAGCTCCTCACTGCTGTTACCCCTATCAGC
ACCTATGCAGGGCCTGAGAAGCTGCTCAAACTGCTTGATCCCCCCAGCCAAGCCAGGCAA

FIG. 4E

GAGAATAAGGACGGAGTAGGGAGGGATTCCCAAAGGTGAGTAGTTGAGACGTACTCCGGA
GCCAGCCTGGGCACTGGAGCTGGAAGGGGCTTCCCCGGCCCCTCCCTCTGCACCTTCCCA
TCAGAAGCCTTCTGGGCCGTTCCTGGAGCTTCACCCCAGTCACTCCACTTCAAGGTCAGA
GAGAAGGACAATTGCTAAGCAGTTCCTCCCGATGCAAAGCTCAAAACAAGCCCCAGGTCC
TCCTGCTCAGTGTGAGAGAGAGGACGACGAAGGAGGGAAAC (SEQ ID NO:30)

SNP12
G/A

CCAAGGTGTGGCTGGAGGAAGCAGAGTCTACTCCCGCTAAGTCTGTCCGCTCACTGCTGG
CCAAAGCTGCCCTGCGTCTCCTCCCCACCGCCAGCCAGAGGGAACCTGCAATTTCACCTC
ATTTAGAGGTAAAACATCTAAATTTAACGTTATGGGCTTTTGGGGCTGGGTGGCTTTTAT
GCCTGAGTCCCTCACTTAGGGCTCCTTTTTATCCACTCAAATGCCAGCTAGGGCTTAGTT
TGTTTATAGGAGTTTCCAAAATAGCTCCTTTGGTTTCGCATGAAAGGAAATGGCAAAATA
GCCCAGGAAGAGGAATGTGAGTTTACACAGAAGACAGACAGGCGCCCGAGGAGGCTTCTC
TGGGAACCAGTTCGCCTGTACCAGAGGGGGCCCGAGAAAGT (SEQ ID NO:31)

CCAAGGTGTGGCTGGAGGAAGCAGAGTCTACTCCCGCTAAGTCTGTCCGCTCACTGCTGG
CCAAAGCTGCCCTGCGTCTCCTCCCCACCGCCAGCCAGAGGGAACCTGCAATTTCACCTC
ATTTAGAGGTAAAACATCTAAATTTAACGTTATGGGCTTTTGGGGCTGGGTGGCTTTTAT
GCCTGAGTCCCTCACTTAGGACTCCTTTTTATCCACTCAAATGCCAGCTAGGGCTTAGTT
TGTTTATAGGAGTTTCCAAAATAGCTCCTTTGGTTTCGCATGAAAGGAAATGGCAAAATA
GCCCAGGAAGAGGAATGTGAGTTTACACAGAAGACAGACAGGCGCCCGAGGAGGCTTCTC
TGGGAACCAGTTCGCCTGTACCAGAGGGGGCCCGAGAAAGT (SEQ ID NO:32)

SNP13
G/C

TACGTTAGAAGGACCCTACGTTAGAAGGGTGAGGCGCTAGGGCCATAGCCTAAGGGCACT
GGGAACCCTGTGGGCATGCGCAGTTCAAGCCCATCCCCGCTCCCTCCAGCTGCTGTCCAT
CCCTGCCACACCTGACCATTTGCCTAACCTAGATCCTTCCTGTCTTGCATTTCCTCAAGC
ATCCGGAGCCCAGGACTGCTGAGTCAACCCTCTGGAATGCCCACAACTCCCCACAGGCCA
GCCGGCCTTGGGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTGCTAGT
GGAGGCTGTTAACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCATCTGGTC
CTCCAGAGGTAAACAATTTACAAGAGACACATCAAGCCGGC (SEQ ID NO:33)

TACGTTAGAAGGACCCTACGTTAGAAGGGTGAGGCGCTAGGGCCATAGCCTAAGGGCACT
GGGAACCCTGTGGGCATGCGCAGTTCAAGCCCATCCCCGCTCCCTCCAGCTGCTGTCCAT
CCCTGCCACACCTGACCATTTGCCTAACCTAGATCCTTCCTGTCTTGCATTTCCTCAAGC
ATCCGGAGCCCAGGACTGCTCAGTCAACCCTCTGGAATGCCCACAACTCCCCACAGGCCA
GCCGGCCTTGGGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTGCTAGT

FIG. 4F

GGAGGCTGTTAACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCATCTGGTC
CTCCAGAGGTAAACAATTTACAAGAGACACATCAAGCCGGC (SEQ ID NO:34)

SNP14
C/T

GGGTTTCCCCCAAGCCCCTTTCCCCCTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTCA
GCTTGGTTCTTTCCTTTACATCCATTAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTTTT
TCTTTTGTATAACTTAATTATTTCAGGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAGTCA
CACTGGTGTGTGTGCGACTCCTACAAAGTTAACAGTTTCTCCAGGTCAAGGGGTGGGATC
CAGGCTTGGTGATGTGCACAATTTCTTTTGTCCACTTGACACATCTCTGCGTCCTGATTC
TGCTCAGGGACGGACCCAAGAACAAAGCAGCCATTTACCGCCTCCGGAGGGGAGGCCAGC
CCTGTGGCACATCCAGGGCCTTGGAACACCTAGAGACAGAT (SEQ ID NO:35)

GGGTTTCCCCCAAGCCCCTTTCCCCCTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTCA
GCTTGGTTCTTTCCTTTACATCCATTAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTTTT
TCTTTTGTATAACTTAATTATTTCAGGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAGTCA
CACTGGTGTGTGTGCGACTCTTACAAAGTTAACAGTTTCTCCAGGTCAAGGGGTGGGATC
CAGGCTTGGTGATGTGCACAATTTCTTTTGTCCACTTGACACATCTCTGCGTCCTGATTC
TGCTCAGGGACGGACCCAAGAACAAAGCAGCCATTTACCGCCTCCGGAGGGGAGGCCAGC
CCTGTGGCACATCCAGGGCCTTGGAACACCTAGAGACAGAT (SEQ ID NO:36)

FIG. 4G

AGCATCCGGAGCCCAGGACTGCTCAGTCAACCCTCTGGAATGCCCACAACTCCCCACAG
GCCAGCCGGCCTTGGGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTG
CTAGTGGAGGCTGTTAACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCAT
CTGGTCCTCCAGAGGTAAACAATTTACAAGAGACACATCAAGCCGGC (SEQ ID
NO:34)

SNP14
C/T

GGGTTTCCCCCAAGCCCCTTTCCCCCTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTC
AGCTTGGTTCTTTCCTTTACATCCATTAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTT
TTTCTTTTGTATAACTTAATTATTTCAGGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAG
TCACACTGGTGTGTGTGCGACTCCTACAAAGTTAACAGTTTCTCCAGGTCAAGGGGTGG
GATCCAGGCTTGGTGATGTGCACAATTTCTTTTGTCCACTTGACACATCTCTGCGTCCT
GATTCTGCTCAGGGACGGACCCAAGAACAAAGCAGCCATTTACCGCCTCCGGAGGGGAG
GCCAGCCCTGTGGCACATCCAGGGCCTTGGAACACCTAGAGACAGAT (SEQ ID
NO:35)

GGGTTTCCCCCAAGCCCCTTTCCCCCTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTC
AGCTTGGTTCTTTCCTTTACATCCATTAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTT
TTTCTTTTGTATAACTTAATTATTTCAGGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAG
TCACACTGGTGTGTGTGCGACTCTTACAAAGTTAACAGTTTCTCCAGGTCAAGGGGTGG
GATCCAGGCTTGGTGATGTGCACAATTTCTTTTGTCCACTTGACACATCTCTGCGTCCT
GATTCTGCTCAGGGACGGACCCAAGAACAAAGCAGCCATTTACCGCCTCCGGAGGGGAG
GCCAGCCCTGTGGCACATCCAGGGCCTTGGAACACCTAGAGACAGAT (SEQ ID
NO:36)

FIG. 4H

SNP Table

SNP Name	Source	dbSNP ID	Nucleotide Change	Position
SNP1	dbSNP	rs16437	TTGA IN/DEL	48931488
SNP2	dbSNP	rs1060402	A/G	48933573
SNP3	Joslin		A/G	48940121
SNP4	Joslin		A/G	48942634
SNP5	Joslin		A/C	48954431
SNP6	Joslin		TTAGTGCCGGGCCGGC (SEQ ID NO: 8) IN/DEL	48956026
SNP7	dbSNP	rs2426169	A/G	48960837
SNP8	Joslin		A/G	48964956
SNP9	dbSNP	rs768175	A/C	48966905
SNP10	Joslin		C/T	48973501
SNP11	dbSNP	rs2426183	C/T	48978623
SNP12	Joslin		A/G	48981954
SNP13	Joslin		G/C	48990734
SNP14	Joslin		C/T	49037219

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC version hg11)

FIG. 5

```
  1 MLVGSQSFSPGGPNGIIRSQSFAGFSGLQERRSRCNSFIENSSALKKPQAKLKKMHNLGH 60
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
  1 MLVGSQSFSPGGPNGIIRSQSFAGFSGLQERRSRCNSFIENSSALKKPQAKLKKMHNLGH 60

 61 KNNNPPKEPQPKRVEEVYRALKNGLDEYLEVHQTELDKLTAQLKDMKRNSRLGVLYDLDK 120
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 61 KNNNPPKEPQPKRVEEVYRALKNGLDEYLEVHQTELDKLTAQLKDMKRNSRLGVLYDLDK 120

121 QIKTIERYMRRLEFHISKVDELYEAYCIQRRLQDGASKMKQAFATSPASKAARESLTEIN 180
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
121 QIKTIERYMRRLEFHISKVDELYEAYCIQRRLQDGASKMKQAFATSPASKAARESLTEIN 180

181 RSFKEYTENMCTIEVELENLLGEFSIKMKGLAGFARLCPGDQYEIFMKYGRQRWKLKGKI 240
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
181 RSFKEYTENMCTIEVELENLLGEFSIKMKGLAGFARLCPGDQYEIFMKYGRQRWKLKGKI 240

241 EVNGKQSWDGEETVFLPLIVGFISIKVTELKGLATHILVGSVTCETKELFAARPQVVAVD 300
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
241 EVNGKQSWDGEETVFLPLIVGFISIKVTELKGLATHILVGSVTCETKELFAARPQVVAVD 300

301 INDLGTIKLNLEITWYPFDMEDMTASSGAGNKAAALQRRMSMYSQGTPETPTFKDHSFFR 360
    ||||||||||||||||||.||||||||||||||||||||||||||||||||||||||||||
301 INDLGTIKLNLEITWYPFDVEDMTASSGAGNKAAALQRRMSMYSQGTPETPTFKDHSFF. 359
```

FIG. 6A

```
361 WLHPSPDKPRRLSVLSALQDTFFAKLHRSRSFSDLPSLRPSPKAVLELYSNLPDDIFENG 420
                                                     |||||||||||
360 .................................................SNLPDDIFENG 370
             .         .         .         .         .         .
421 KAAEEKMPLSLSFSDLPNGDCALTSHSTGSPSNSTNPEITITPAEFNLSSLASQNEGMDD 480
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
371 KAAEEKMPLSLSFSDLPNGDCALTSHSTGSPSNSTNPEITITPAEFNLSSLASQNEGMDD 430
             .         .         .         .         .         .
481 TSSASSRNSLGEGQEPKSHLKEEDPEEPRKPASAPSEACRRQSSGAGAEHLFLENDVAEA 540
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
431 TSSASSRNSLGEGQEPKSHLKEEDPEEPRKPASAPSEACRRQSSGAGAEHLFLENDVAEA 490
             .         .         .         .         .         .
541 LLQESEEASELKPVELDTSEGNITKQLVKRLTSAEVPMATDRLLSEGSVGGESEGCRSFL 600
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
491 LLQESEEASELKPVELDTSEGNITKQLVKRLTSAEVPMATDRLLSEGSVGGESEGCRSFL 550
             .         .         .         .         .         .
601 DGSLEDAFNGLLLALEPHKEQYKEFQDLNQEVMNLDDILKCKPAVSRSRSSSLSLTVESA 660
    ||||||||||||||||||||||||||||||||||||||||
551 DGSLEDAFNGLLLALEPHKEQYKEFQDLNQEVMNLDDILKK................... 591

661 LESFDFLNTSDFDEEEDGDEVCNVGGGADSVFSDTETEKHSYRSVHPEARGHLSEALTED 720

721 TGVGTSVAGSPLPLTTGNESLDITIVRHLQYCTQLVQQIVFSSKTPFVARSLLEKLSRQI 780

781 QVMEKLAAVSDENIGNISSVVEAIPEFHKKLSLLSFWTKCCSPVGVYHSPADRVMKQLEA 840
```

FIG. 6B

```
 841 SFARTVNKEYPGLADPVFRTLVSQILDQAEPLLSSSLSSEVVTVFQYYSYFTSHGVSDLE 900

 901 SYLSQLARQVSMVQTLQSLRDEKLLQTMSDLAPSNLLAQQEVLRTLALLLTREDNEVSEA 960

 961 VTLYLAAASKNQHFREKALLYYCEALTKTNLQLQKAACLALKILEATESIKMLVTLCQSD 1020

1021 TEEIRNVASETLLSLGEDGRLAYEQLDKFPRDCVKVGGRHGTEVATAF           1068
```

Top sequence: predicted Diff40 long form (BAA20840) (SEQ ID NO:23)
Bottom sequence: predicted Diff40 short form NCBI (NP_056948) (SEQ ID NO:24)

FIG. 6C

```
  1 MLVGSQSFSPG..GPNGII.RSQSFAGFSGLQERRSRCNSFIENSSALKKPQAKLKKMHN 57
    | |   .  |||  |  |:: || ||||||  | ||    |   ||   : | ||  ||:
  1 MSVRLRFLSPGDTGAVGVVGRSASFAGFSSAQSRRI.AKSINRNSVRSRMP.AKSSKMYG 58
                .        .        .        .        .        .
 58 LGHKNNNPPKEPQPKRVEEVYRALKNGLDEYLEVHQTELDKLTAQLKDMKRNSRLGVLYD 117
       |  .   :|.|..|..:: ||| || ||| | | ||| |. . || :|||||   ||
 59 TLRK.GSVCADPKPQQVKKIFEALKRGLKEYLCVQQAELDHLSGRHKDTRRNSRLAFYYD 117
                .        .        .        .        .        .
118 LDKQIKTIERYMRRLEFHISKVDELYEAYCIQRRLQDGASKMKQAFATSPASKAARESLT 177
    |||| : :||:.|::|||||||||||| |||| ||.|||| |..|||  | |:||||||
118 LDKQTRCVERHIRKMEFHISKVDELYEDYCIQCRLRDGASSMQRAFARCPPSRAARESLQ 177
                .        .        .        .        .        .
178 EINRSFKEYTENMCTIEVELENLLGEFSIKMKGLAGFARLCPGDQYEIFMKYGRQRWKLK 237
    |: ||  |  |.|  ||  ||  |||| |:|||| |:|||||| ||: |: ||||||||
178 ELGRSLHECAEDMWLIEGALEVHLGEFHIRMKGLVGYARLCPGDHYEVLMRLGRQRWKLK 237
                .        .        .        .        .        .
238 GKIEVNGKQSWDGEETVFLPLIVGFISIKVTELKGLATHILVGSVTCETKELFAARPQVV 297
    |:|| .  |.|| ||  |:| :   : ||||||:|| . : ||.|||:  : |  ||||:
238 GRIESDDSQTWDEEEKAFIPTLHENLDIKVTELRGLGS.LAVGAVTCDIADFFTTRPQVI 296
                .        .        .        .        .        .
298 AVDINDLGTIKLNLEITWYPFDMEDMTASSGAGNKAAALQRRMSMYSQGTPETPTFKDHS 357
     ||| :|||||| ||: | ||| |    |     | .   |: |:|.   | ||.|::
297 VVDITELGTIKLQLEVQWNPFDTESFLVSPSPTGKFSMGSRKGSLYNWTPPSTPSFRERY 356
```

FIG. 7A

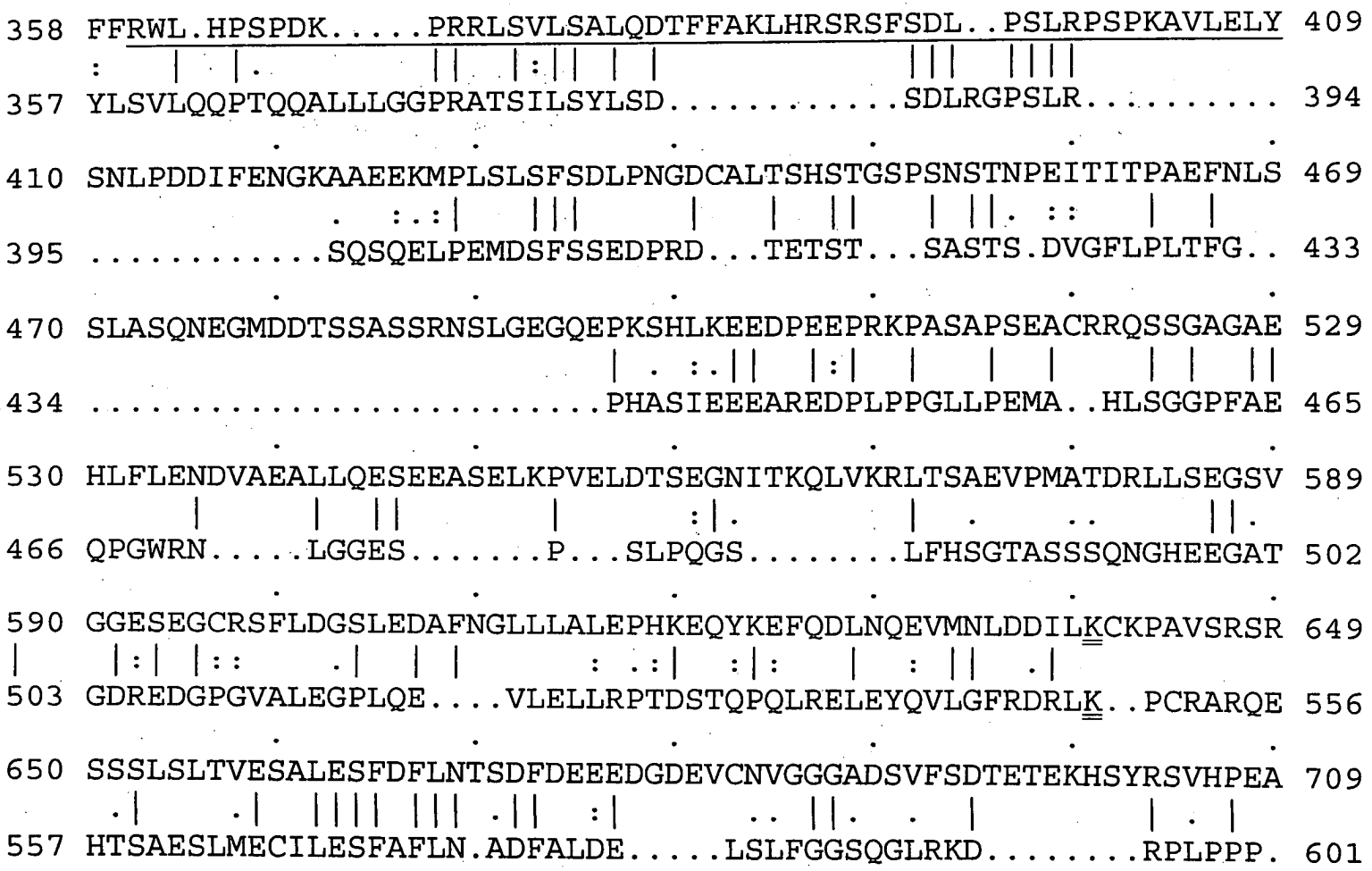
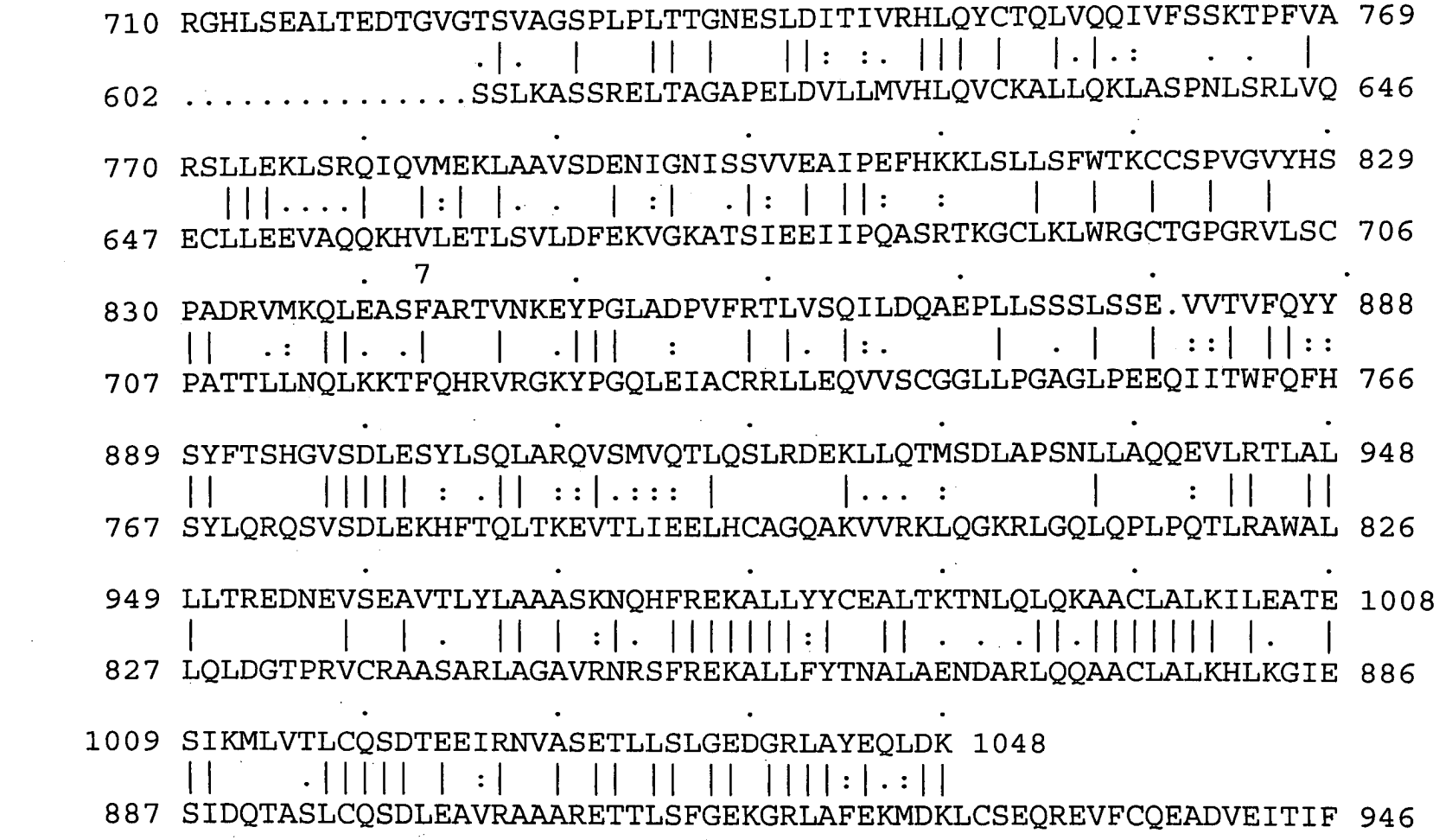


FIG. 7B



Top sequence: predicted Diff40 long form (BAA20840) (SEQ ID NO:23)
Bottom sequence: T2DM-1a (SEQ ID NO:2)

FIG. 7C

```
  1 MLVGSQSFSPG..GPNGII.RSQSFAGFSGLQERRSRCNSFIENSSALKKPQAKLKKMHN 57
    | |   .  |||  |  |:: || ||||||  | ||    |   ||   : | ||  ||:
  1 MSVRLRFLSPGDTGAVGVVGRSASFAGFSSAQSRRI.AKSINRNSVRSRMP.AKSSKMYG 58

 58 LGHKNNNPPKEPQPKRVEEVYRALKNGLDEYLEVHQTELDKLTAQLKDMKRNSRLGVLYD 117
       |  .   :|.|..|..:: ||| || ||| | | ||| |. . || :|||||   ||
 59 TLRK.GSVCADPKPQQVKKIFEALKRGLKEYLCVQQAELDHLSGRHKDTRRNSRLAFYYD 117

118 LDKQIKTIERYMRRLEFHISKVDELYEAYCIQRRLQDGASKMKQAFATSPASKAARESLT 177
    |||| : :||:.|::|||||||||| |||| ||.|||| |..|||  | |:||||||
118 LDKQTRCVERHIRKMEFHISKVDELYEDYCIQCRLRDGASSMQRAFARCPPSRAARESLQ 177

178 EINRSFKEYTENMCTIEVELENLLGEFSIKMKGLAGFARLCPGDQYEIFMKYGRQRWKLK 237
    |: ||  |  |.|  ||  ||  |||| |:|||| |:|||||| ||: |: ||||||||
178 ELGRSLHECAEDMWLIEGALEVHLGEFHIRMKGLVGYARLCPGDHYEVLMRLGRQRWKLK 237

238 GKIEVNGKQSWDGEETVFLPLIVGFISIKVTELKGLATHILVGSVTCETKELFAARPQVV 297
    |:|| .  |.|| ||  |:| :   : ||||||:|| . : ||.|||:  : |  ||||:
238 GRIESDDSQTWDEEEKAFIPTLHENLDIKVTELRGLGS.LAVGAVTCDIADFFTTRPQVI 296

298 AVDINDLGTIKLNLEITWYPFDVEDMTASSGAGNKAAALQRRMSMYSQGTPETPTFKDHS 357
     ||| :|||||| ||: | ||| |    |     | .   |: |:|.   | ||.|::
297 VVDITELGTIKLQLEVQWNPFDTESFLVSPSPTGKFSMGSRKGSLYNWTPPSTPSFRERY 356
```

FIG. 8A

```
358 FFSNLPDDIFENGKAAEEKMPLSLSFSDLPNGDCALTSHSTGSPSNSTNPEITITPAEF. 416
    : | |               . |   .   |  |  | . |  | |.   | :     |
357 YLSVL.............QQPTQQAL..LLGGPRATSILSYLSDSDLRGPSLRSQSQELP 401
              .           .           .           .           .
417 NLSSLASQNEGMDDTSSASSRNSLG...EGQEPKSHLKEEDPEEPRKPASAPSEACRRQS 473
     : | .|:.    :||...| . .|       | . :.||  |:|  |   |  |   |
402 EMDSFSSEDPRDTETSTSASTSDVGFLPLTFGPHASIEEEAREDPLPPGLLPEMA..HLS 459

474 SGAGAE 479
     |  ||
460 GGPFAEQPGWRNLGGESPSLPQGSLFHSGTASSSQNGHEEGATGDREDGPGVALEGPLQE 519

520 VLELLRPTDSTQPQLRELEYQVLGFRDRLKVWPPRPGRWPCFADGMMTGSRGLWGHAAWA 579

580 DILASPLRDLGGPCLSGPWFPHLASGDNNSPHGAQEDFKSSQ 621
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Top sequence: predicted Diff40 Short form (RefSeq NP_056948) (SEQ ID NO:24)
Bottom sequence: T2DM-1b (SEQ ID NO:4)

FIG. 8B

>T2DM1 and T2DM2 refseq, +/-1000bp

GCCTGAGGCCACCCTCCAAGTGTCCCCACAGCGCACCACAAGACCACAGGAGTGACCTCC
TCACTGGCAGGTATTTGGGGAAACAACTGCTGTCTACTCTTTTGGGTAAAAAGTGAAACA
CCAATAGTTTAATTGAAATTTCAGAAAATTGAACATATGAACAAGGCAAATAAATACTAA
GTAAGTTAAAAACACAAAATATGTCCAGGAAGTATCGATGAGAATGTTCAAGTTAAAGTT
CTCCAATGCCATTGCTACAGCAACCTCAAACCCTAGGTTCTCTCTGCACTATTAACACAG
ACATCTCAGGACATGGTTTGCTTTTTTTTAAGACTTAAATAGGAAACTAATTTTTCTTTC
TTTAAAGCAATTGCGTTCTTCAGTGAACTCTTTCTTTAGGCCAGTTGATGGCTTCTTAGC
AGTTTATTGACGAGATCCTAGGGTAGCTTCCGAAGCTGGGTTGATTGATTGCATTTGGGT
GCGGATGGCCAAAGTGAGTGGCCCTACTGCCTGTGCTGCTCAGGGCTCCTGGGCTGATGT
GGTGGCTTCTTCCCTTTGTGCTGCTGAACATAGGGAAAGTGAGGTTCACAGTCCACCATC
CACCAGCCGCCGTCTGTGAGCTCCACCAGCACTCGCAGCAAGTCAGTCGGGCTGAGAGTG
TGGTTGTAGAAACCCTGGCTTTGTGCCTTCCCACCTTCCCCAGCTCACCAAGGTGACACC
TGGCTGCTGCTGAAATGGCCTGAGCAGTCTTGCATTAGCAGGGCCAGCCACCTGCCAGCC
TGCTGCATCCCCAGTGCCTCTTGACGCAGAAGTGCCGAGCAGCTGACCGGCAGCGAGGCC
TGGAGTTCTACACACTTGCCTTGGAGCCTTTTATTTAGGGCCTCAACTTGCCTGGCCTTG
GCCCTTTTGTAGGTGGCCACCTAGTTTGGCTCAGCTCTGCATCTCGGGGAAGGTCACACA
GACCCTCAGCCAGAAGTTGAGCGCTCTGTTGAGGCCGTGCAGCCCCTGGAATGCTGTACC
TTTGCCTTGCTTTTTTCTGCCTCTGTACAAAAGACCAGCCCATGCCCTGGGGCTGGGTCA
ATGGCCGGAGTCTCAGGTAGAGCTCTGGGCAGCTCACACTCCTGGAGGAGTGCACAGCAC
CATTACCCAGAGTGCAGGCTATGTCCAGGCTGGGCAGCAGCAAAAAAAACGATGTGAGAT
TTGTGCTCATCAGCCAGGATTTTTTAAAATATTGTGATTTCAACATCTGCCTCCTGGCAA
AAGACTTCTCTTTGTTCTGAGCAGAGCTTGTCCATCTTCTCAAAAGCTAACCGTCCTTTT
TCACCTGAAATAGCAAAGGGACCTGTCAGCGGGTTGGATCCTGCCTTGGCACTTCCAACT
CTCCTGGGCCAGGGTGGCCCTAGTGCTTAGTGACTGTGGGTCTCAGTGGTCTCTGCAAAG
CGGCAGGGGAGGGAGTATGTGCGGGAGCCCCCACCTGGTGACTCACATGGCCTGGGGGCC
TTGTCTTTACCTCTAGGATGTTCCGCTGAATGGGAACCCTGCCTTGCCTCTGGCTTCTAT
CCCAAAGGTCTAAGAAGACAGCGAACACTCCCTGCCACCCCAGCCATGGAGGAGGCCTGC
CTTGGCAGGATGCTACAAAGGGTGGAGGTCGGCTCTGTGCCAGGGCTGCTAACGGTGCCC
ATCCCAGGTGCCCCAGAGTTGTTCTGCCTGCTGGGAGAGCTGGGTGTGGCCTCTCGCAGA
TTCTAAGGGCCCCAGGCACCCCGCTGCGCTGCACAGTTTGTGCCACTTTTTACCGAACGA
CAGTGTGGTTTCCCGGGCTGCCGCCCGCACGGCCTCCAGGTCAGACTGGCACAGGCTGGC
AGTCTGGTCGATGCTTTCAATGCCCTGTTCGAGATTAGGAGAAAAAGAACCCTTTAGGGG
GCCTTCTCAACAGCAGGTAGAGTCCACTTAGTGGCCCTGCAGGGCCAGTCCTAGCATGGT
CTCTGGGGCCTCAGCCCCTTCCTTTTCTCCAGGCTTCCAGGTTTTTTAGGTGGCCTCAGG
TTCATGAGAGGCACCTCTGGACTCTGGAAGCGTCTCGCCTCTTCAGCCCTTACACCCGCT
AGGGAGCCAGGCTGTTAGCAGAACTCGTCATCCTGGATGCCTGCTGAAAGGCTAGAATTG
AAAAGGAGACCTGCTGCTTTCTGGACCTTCCTGCCTCCCTCACGCTCTCCTTGCCCTACT
CTCCAGGACAGCCTGTGCCAGTACTTCGCCCAACTCAGGCACATGCCCCCTGGCTGCTCC
TGCAGGCCAAGGACCGGCATGCGCTGCAGCGCCCTCTACTGGGCACCTGGCCCTCGCTGG
TTTTCTGATCCTAACCAGCTTCTCCTCTTAGAATTTCCTGCTGATCCATCCCAGAATGAA
TGGGAGTTCAATCTGTACTGAATTATCTTTCATCTAGCAATTGTGCAATTCCAAATGCAG
GTGAGGTTGAGGGAAAGCGGGCATCCCCTCACATCCATGGGATCTATGTGTGGGTTGTAT
CAAGAGTCTCAAAAATGCTCATATTCTCCGGTCCTAGAATTGGGTCTAGCCTAAGGAAAT
AATTCAGAACTCCATGTTTTTTTAAAGCTTTATGCACAAACATGATCATAAGACATGATT
TATGATAAAAATTGGATGAAGTAAACTTTCCTATGAAAGCAGCTGAGTAGGTTAAATTAA

FIG. 9A

GGTATACACTTGATAGCCCCTTCATAAAGAATTCTCAAGTGAAAAAAAAAAAAAAAAAAA
GAAAAAAAACACCACAAATAAAGAATTCTAGGCCGGGCGCGGTGGCTCATGCCTGTAATC
CCAGCACTTTGGGAGGCCGAGGCGGGCAGATCACGAGGTCAGGAGATCGAGACCATCCTG
GCTAACACAGGTAAAACCCCATCTCTACTAAAAATACAAAAAAATTAGCCGGGCGTGGTG
GTGGGCGCCTGTAGTCCCAGTTGCTGGGGAGGCTGAGGCAGGAGAATGGTGTGAACCCAG
AAGGCAGAGCTTGCAGTGAGCCGAGATCGCGCCACTGCACTCCAGCCTGGGTGACAGAAC
AAGACTCCATCTCAAGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAGCTAAAGTGCTGCCA
GTCTAACACAAAATGTTCTTATTTTGTTGACTGTTTTTAAACTATGTTTGGATCAACAAT
TTTAAATGCTCACACACACCCACAAACTTTTAAAAGAAGCATACCAGAATGTCAACCATT
GTTTCTGCTACATTCTAGGATGATGGATAACTTTCTTTTCTATCTCTGTATTTTGTAACT
TTTTTTTTTTTTTTTTTAAGATGGAGTCTTGCTCTGTCACCCAGGCTGCAGTGCAGTGGC
ACGATCTCGGCTCACTGCAACCTCCACCTCCCGGGTTCAAGTCCCGAGTAGCTGGGACTA
CAGGCATGTGCCACCACGCCTAGCTAATTTTGTGTGTGTGTATTATTAGTAGAGATGGAG
TTTCGCCATGTTGGCCAGGCTGGTTTCAAACTCCTGACCTCAGGTGATCTGCCTGCCTTG
GCCTCCCAAAGTGCTGAGATTACAGGCGTGAGCCATCACGCCCAGCCCCAGTGGAATCAT
TTTGAAGTTAACTAACCTTAACCCTAACCACAAGCAGGCTTTTCTATCAGCCACTAATGG
GGAAACGTCAGGCTCACCTTGAGGTGTTTGAGCGCTAGGCATGCGGCCTGCTGGAGCCTT
GCGTCGTTCTCTGCCAGGGCGTTGGTGTAGAACAGCAAAGCCTGGGGAGAGTAAGGAGGC
TGTGAATGGAGGGGTAAGCAGAAGTGGAGTCCATGGTTCCGGGTCCATCAGCCACCAGGT
GCCGACAGTAAGGCACGCTGTGCCCATCTTTCTCTAAACAACGTTCAGGACACGATCGGT
CCATCTTTGGGCCCTGTGTACACAGTCACAAGATCTATACTGTGGTGTTTAATTTATCCC
TAAAAACAGATGCCAGGGCTAATACAATGAAGAAAGCTATTTTTGTCTAATAATATTCCG
GAAGTGCATTCTGAAACTGCTGTCTATAAAATGCTGAATCAGAGAAATCAGATGCCCAGC
TCAGAACAACAGAAGAACTGATCATCCCATGTGCGTTGCCCTCTTCAGCTGAAAACGGGC
AAGGCTGCTGCCTTGGGCCAGAGGGAAACCTGCCTATTCCCCTCAGCCCTCCTGTCCAAT
CCCAGCGGTGACCCTGCCCTCTTCGGTCTCACGACCATGGCCACATCAGTTCATGTCTTT
GGGCCTAACTTGACTCAGCTGAAAACAAAGCTGGCACTTGCTTCATGTGTTATTGTAGGG
TTTGTCAGAAAGCACACAGGGTTATGCCCGGCCCGCAGTGGAGTCCAGCGTCTGCGGCTG
CAAAGGGAAACCCAGGAGTGGGTTTGCCCTCACTCAGTCGAGTGGCTGCACCTTCAACTG
CACGGGTGGGGCGATGGAGGGGCCCAGGTGTAGAGTTGGCTCCAGGGACCTGGGCCCAGA
GCCAAAAGAGAATGGCCGCCTTTCCATCTGCAGGTGGCTCTCCAAAGTGTCTGCTGCTTT
GGGAAGACAGACTGGGAGTAGGATCGGGTCCTCCCGCTCCTCCTACACAGGGCTCTGGTG
AAGGCTGTGAGGCCACATCGGTGTGGAAATGTCACACTGCCCACTGCCTCTAACCCCAGG
GTCCCAGGTCATGGCAGCCTACTCCTTCCTCAGCACCCTCATCTGAGGCCAAGCAATCTG
TCACTGGGTTGGCCCCCACCTCAGTGTTTCCTACTCTCTAAAGTCTGTCACATGAAGATG
AAGGCCCTTTTTTTTTTTTTTTTTGAGACAGAGTCTCACTTCGTTGCCCAGCCTGGGGTG
CAGTAGCACAATCTCGGCTCCCTGCAGCCTCTGCTTCCCATGGAGGCCTTGTTTATATAC
CCCCATACCCAAAAAACAAAATACACCTGACTTCAGTGGATCCTTGAAGCCAACTACTAG
TTTTCAGGAACTACAGAAGACAGAGAAATACATTAAACTACCGTTAAACTTCCTGCAAGC
AGCAAAGTCTAGATAGTCTAGGTCAACCTGGGATCGATCAAATTAATTGCAAGCAGAGAA
AGAAACGGGGAAAAAAACCTTTAGATTGATTGGAAGCCATCAGCCAATCACAATGTGTGT
CCTTATGTAGATACTATTTTAACAAAAAATAAAACAGGATGCTTGAGGCTTGGAAATTTG
AACATAAGATATATGATATAAAGGAATTGATAGTTAATTTTTTAGATAAGATAATGGTGT
TAGAGTTGTGATTTTTGAAAGAATTCTTAACCTTTTGACACATATAGTTAACTATTTAAG
GTCAAATAGGATGCCTCAGGTTGCTTCAAAGTGATACAGGGGAGTGGAGGGGAAAGGGGC
AGGATTGGCCATGGGTTGATGGTGGTTGGGCTTGGGTTATGGGTGCAGGTGGATTCATTA

FIG. 9B

TATTGCTCTGTCTACTTTTGCAAGTTCAAAAGTCTCCAAATAAAGAGTTAAAAACAACCA
CAAAGTAGGCGGATGGGCTCCAAGAAGGGCTATTGGCAATGGAACTGGAGATTTCCTCTC
TAGTCTGGAGCTGAGACCATCAGTGTAGACTATGCCCTTGATGTCACCCTTCCTGAACCC
CTCAGGGTGTGGCGCCTTAAACGTACAGTAGTTACAGGCAAAGAGTGAAAAAGCAGAGAG
GTCCACTCTCTTGGTTTTCAAATGGACTGAACACAGTGACCCATTACCAGGTAGCCATGA
ATATTAATTGAAAGTAAATAAGGATGACTATCAAAACACTAAGAAAGGCTGGGCGCAGTG
GCTCACGCCTGTAATCCCAGCACTTTGGGAAGCCAAGGCAGGCGGATCGCAGGGTCAGGA
GTTTGAGACCAGCCTGGCCAACATGGTGAAACCCTGTATCTACTAAAATTACAAAAATTA
GCTGGGTATGGTGGTGGGCGCCTGTAATCCCAGCTACTCAGGAGGCTGAGGCAGGAGAAT
TGCTTGAACCCAGGAGGTGGAGGTTGCAAGATCGTGGCACTGGACTCCAGCCTGGGCAAC
AGAGCAGAACTCTGTCTAAACAGACAGACAAAAAACGCACTAAGAAAAACATTCAGCGTG
CAAGTGACATCTCAGAGGCCTAACAGATGTGTTGCTTTGGAAGCAGCAAGGTGCATTCAT
GTGTGTTAGATCGTAGCCCAGGTCCCTCCATCAAAATAGCTCACAGCTACTGCAGCCCCT
GGCACTCACTTCTTTGTACTTTTCCATGAGAACACCAGCTTACCTATGCCCACACATCTG
TGGCCAGGGTCTGCCACCTGCCCTGGACAACGTACCTTTTCCCGGAAGCTTCTGTTCCTG
ACTGCACCAGCCAGGCGAGCGCTGGCCGCCCTGCACACCCTCGGAGTGCCGTCCAGCTGG
AGCAGCGCCCAGGCTCTTAAGGTCTGGGGCAGAGGCTGGAGCTGGCCCAGCCGCTTCCCC
TGCAGCTTCCGGACCACCTTGGCCTGTCCCGCACAGTGAAGCTCCTCGATGAGTGTCACT
AGAAGACAGGAAAGAGGTGGGCCCAGGTCCCCTGAATGGGAGTTTGGCAGGACAGCTGCA
AGTTTGCTTGGCTGCTGCCAGTAGCCACAGAGGAACAAATCCCAGACCCACCGGGATGAT
CACCAAGGCCCAGCCTGGACTAATTTCACAGGGAGCTCCTGGAATCTCCAGGAAGGCCTT
TTAACAAGGGGTCAAATATGCTCCATAAATTAATAAAACCACAGCCCACACTTCCAGGGA
CTCTGGCCAGCCAAGATCACCCTCCTACCCAGCTCTGACCTCTGTTCCGTGCTTTTTAAA
GCTGACTTCCCTTGGAGCTAATATCAGCCCCCATCGGCTGAACGCAGAATCTCATTAAAT
CGGGGTTCCCAAAAGAACAGTTGGCGGGGATGGATGTAGTGGTTCTGAATTATAACCTGA
GAAACTGCATGTGACAGGGCTCCGTGGATATTCCTCTGCTATGACAGCCACCCACCCCAG
TCTTACCTTCCTTGGTGAGCTGGGTGAAGTGCTTCTCCAGGTCAGAGACGCTCTGCCTCT
GCAGGTAGCTGTGAAACTGGAACCAGGTAATGATCTGTTCTTCTGGGAGCCCAGCTCCGG
GGAGCAGCCCACCACAGCTGACCACCTGCTCCAGGAGCCTGCGGCACGCTGGCCAAAGGG
GAGAGTACATCAGGAGAAACTGAGACCTCGACCCTCCACGCTTCTCAGCTGGGAGTAGCC
TGGTCAGCTAAAAGGCTTTCTGGGCCGGGCGCAGTGGCTCGCACCTGTAACCCCAGCACT
TTGGGAGGCCAAGGTGGGCAGATCACCTGAGGTCAGGAGTTCGAGACCAGCCTGACCAAC
ATGGTGAAACCCCATCTCTACTAAAAATACAAAATTAGCTGGGTGTGGTGGTGCCTGCCT
GTTTCCCAGCAACTCTGGAGGCTGAGGCAGGAGAATCGCTTGAACCCGGGAGGTGGAGGT
TGTAGTGAGCCAAGATTGCGCCACTGCATTCCAGTCTGGGCAACCATGAGTGAAACCCCA
TCTCAAAAAAAAAAAGGGTTTCTGATGGCACGAGGGCAGGTGTCCCTCACTGCATTCCCT
GTGCTGTAGGGGAGGAGTGTGCCCAGCTAGAGTCAGGACTGTGACTCCAACTCACCCTGA
GTCAGACCGTGTTGGGTTCATCCCCATGCCCTGGGCCCCACACCACACCTGGATCAAAAT
CCCGGAGGCAGGGCCTGGGAATATGCATGTCAACAAGCAGTCCAGGTGGTGCTTGGAACA
TGACTGTCACCTTTCACTTGCTCCACAGAGAAAGGCAAATTCTGGGGAAGAACGCAGTCC
AGCCAGCATTTCTAGATACCCTCGTGGGCCCCTGCCTGCCTCCCTTCCCATAAGGTTCAT
TCTTTACCCGTCAGGCTCTGGTGGGAGGCATGGAATCTGTCCCCAGAAAAATGCTCTGGC
GGCCGGGCGCAGTGGCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCGAGGCGGGCGAA
TCACAAGGTCAGGAGTTCGAGACCAGCCTGGCCAATATGGCGAAACCCCGTCTCTACTAA
AAATACAAAAAAAGAAAATTAGCCAAGCGTGGTGGTGCACACCTGTAATCCCAGCTACTC
GGGAGGCTGAGGCAGAAGAATCGCTTGAACCCGGGAGGTAGAGGTTGCAGTGAGCCATGA

FIG. 9C

TTGTGCCACAGCACTATAGCCTGGGCGACAGAGTGAGACTCCATCTCAAAAAAAAAAAAA
AAAAAAAATGCACCGGCCCACCAAGTTTGCACGCAGCTTCAGGGCTCCACAGACTGCTCA
GAAGGCCCCACGTGGAGGCCCCTTCTCGCCCGGTGAAAGGGCGGTGACTCGCACTGAAGC
TGAGAAAGCTCCTCCGTCCGATGGCATGAAGACACAGAGGTGAAGACAGGGCTGAAATGA
GGCCAGCTGTGGCCACCCTGAAGGCCCTGGAGACTCAATACAGCCTTTCTGTGGGAGGGG
ACGACAGGACAGAAGGGAACCCACCTATTTCCAGCTGTCCTGGGTACTTCCCTCTGACTC
TGTGCTGGAAGGTTTTCTTGAGCTGGTTCAGCAGCGTCGTGGCAGGGCAGGACAGGACCC
TGCCAGGCCCTGTGCACCCTCTCCACAGCTTCAGGCACCCCTTCGTCCGCGAGGCCTGTG
GGATGACTGAAAGCCCCAGTTCAGAAACCTGAATGGTGACTCGGGGAGAGCACATGACAA
GGACCCGAAAGGTTTCCCTCCACTAGGACCTGAGGGGGTAGGGAGGAGGGGACGGTGTGG
CTTGATGCGAGGTCCCTTCCCTGCATTCCCATGTGACACGTGAGCAACTTTGGCTCTAAG
CATCTTACCAGGGCCACCACCTGCAGTCCCCACAACAACCTGGGAGGGGCTGCTGTCACC
AGCCTCTCCTTACAGACAAGGAACCTGGCCTTCTGAGGGGAGGTCCCACGGGGCAGAGGC
ACAGCTGGGATCACAGCTACTGTTTGACGGCACATTCTGCACCTTGAATGTGGCCTGGGG
TTACCTCACTGAACCCCGTGCAGTGCCCTCCTCCTATGCAGATAGGGAAGCAGAGGCTCA
GAGATGTGAATCATTTGCCTAGAGTCACACAGCTGACTGAAGAGTGTGCTGCAACTCCAG
GACTTGTCTCCCTTACCTCCCCACAAAGAGTGTGTATCTCTGAGCCCAGCCCAGCCACAG
CCTCCACTCTGGGCCCCGATTAACTCTGGCTATTAGGAAGGCAGAAGAGGCTCCCCGAGC
TTTGATCCCGTCCCCGTGCCGCTCACATAGGCAGCCCCTGGGTGGCAGGCAGCTACTTAC
TCTCTTCAATGGATGTTGCCTTGCCGACCTTCTCAAAGTCAAGGACAGAAAGTGTCTCCA
GAACGTGCTTTTGCTGTGCCACTTCTTCCAGGAGGCATTCCTGGACCAGCCTTGATAAAT
TAGGGGAGGCCAGTTTCTGGGAAGCAGCCCAGATGCTCCAGATTAGCATGGAACATGCCC
ACCGAGGTCAGCTGTTACGGCTGTGGCTCCCACCTGCTTGTGCCCATCTCTTCTGTCCCG
GGGGCAGCTCCCTGACTGTCATTTGGGGATTCCCCTTTCACCAAGGTGGCTGAGCTAATG
GGATGCAGGCTGGGCTGCCAGGGACCACCTTTGCCCCCAGAAGGAGGACCAACCTGCCTG
AAAGTGAAGCCAACCCACATTGCAAAGCAGAACTGAGAGAGACCTAGTCCTGATAGCATT
TGAACCCGTGCATCCAGCCGAGCCTGAAGCCTACCTCTGAGGCTTTCAGTACCATGAGCC
GATAAATTTTCCTGTTGGCTGAGCCAGTTTGCATTAGGGTTCTGGCACCTATAAATGAGA
GTCACCACCAAAGCCTTTGGTTTAGGGCTTGGCCTGTGTAAGAGCCACACGAGTATTCAC
CCAGACCCTGGTCTGCCTCTCTTCCACTGGGGAATAGCTTCAGTCTCACGGGCTTCCAGG
ATGCAGGTCTGTCACCCCTTCATGCTTCCCACCACCTTCAAGATGAGCCTTTGCAAAGAG
GACTCCAAACCCCTGTCTGCCCCTCCCTGACAAGTCCCCTAGCCCAGCCACCTGCAGCAG
AGCTTTGCAGACTTGGAGGTGTACCATCAGCAGCACGTCCAGCTCTGGGGCACCGGCTGT
GAGTTCCCTGGATGACGCTTTCAGTGATGACGGTGGGGGCAGGGGCCGGTCCTTTCTGAG
TTGAATTGAGAACTGGGTGACCATTCCAGTTAGCAGTTCAGCTCCCTCTGAGGGTGGGGG
AACCCTCCCTTCCCAGCGAGCCCCAGGTCAGGAGGCCCACTCCAGGTCCCAGGAAGTTCA
ACTGAAGAGGAAGGGGAAAGGAACAAAGGGTGGCAGCAACTCGAAACAGAGCTGGGAGGT
GTGGCCAAGGGCCTGGGGAAGGCAGGGCGGGCAGTCGTCTTCCAGGATGTCTCGTGGAGG
TAGAAGAGAATTCCAACTCATCCCAGCTCTGTGACGCTGGACAAGTCTGCCTCCCCAAGG
CTCAGGTGACTCATCTATCAAGGGAGGCAGGAGCCCCACACTCAAGGCCGTGAGGGGTGC
ATGAAATACGGTGGGCAAGAGCGCCTCACACCAAGTCCACTCTGTGGTAGAGGCTAGACC
TGCTGCCCGACCCACTCAGCCACTCAGGAAGGGTGGAAGCAAGTGTGGCACGAAACACCG
CACTCGTCCGTGGGATTGTGAGAGGCGAGGAGAAGGAATTGAGCCTCTGCTCTTCCATGT
GGTGAGATGCGGATGCAGAAGCCCTCGGGGGCTGGGGCAGGTGAGGCTGCGTAGCCTCGA
GGGAAGCTGTCATGAGAGGTGTGGGCCCTGTGGTGGGACAGAGGGAACAGCACTGGATAC
TGCTGCACCTTGGTTAGGGGCTAAGAGCTTTTTTTTTCTTTTTCTTTTTCTTTTTTTGAG

FIG. 9D

ACAGAGTCTTACTTTCGCCCAGGCTGAAATGTAGTGGTGCCATCTTGGCTCACTGCAACC
TCCGCCTCCCGGGTCCGAGTGATTCTCCTGCCTCAGCCTCCTGAGTAGCTGAGATTACAG
GCTCTTGCCACCATGCCCAGCTAATTTTTGTATTTTTAGTAGAGACGGGGTTTCATCATG
TTGGCCAGGCTGGTCTTGAACTCCTGACCTCAGGTAATCCGCCTGCCTCGGCCTCCCAAA
GTGTTGGGATTACAGGCGTGAGCCACTGTGCCTGGCCTCAAAGAACTTCTACTATATACT
TGGTGATTATTTTTAAGGTTTAAAAAATAATACTAAAAGCTGGTTCCTTGGAGCAGAAGG
CTCAGGGGCAGGCTGGGGTGATCTCACCCACTTCGTGGTCTCTGAGGACCGGCTCTGAGG
CAAGTGGGGGATGTGCGGGGATGGCATGGGGAAGGGTGCACGATAGAGTGACAAGAGCTG
AGCCAAGGACAGTGGGAGAAACAGACGGGGAGGCTGGCAGGAAACGTGGAGCTCGGGTCA
CCCGGTGGGAGTGGTGGCCACTGGGTCACTGCTGGAAGGAGGTGCACTCACCGGAGACCC
TGGGAGCCCCCAAACAGGGACAGCTCATCCAGGGCGAAGTCGGCATTGAGGAAGGCGAAG
CTCTCCAGGATGCACTCCATCAGGCTCTCGGCCGAGGTGTGCTCCTGCCGTGCTCTGCAG
GGCTGTGGACGAAGTGGCCAGACCTGAGGGCAACACCGGGCCCCACCCACCCGACTGGGA
CACTGGCCAGGGGCCTCACGGCAGACTTGGGCAATGTCCCGGTCCCAAGCCCCAATCCCA
CACACCGTCCCCCAGCAGAAGCCCAGCCGCTGGCCCAAGGCGTGGCACTGGGCGTGTCAC
CCCCCAAAGTCCCTCCTGAATGGCCTGTGACAAGGTAGGAGCAGAATCTTGAGGGGGACA
GATCTGAAAACCCTCCCCTGTATCTCAGACACCCACGGGGACAAGGCCAATGGCAGGAGT
GAGTGAGCTGCCCCAGCGGGGACCAGGGAGGCAGGAGCGCAGGTGCCTCCCCTAAGAGGG
GGCCACGCTCATAGATCGCCCAGTTCTAAGAAAACCCTAAAACATGGATATTTATGGGAA
ACTGCCCAGCTTTGAAATACCAACAACAAATTTCAAAGTATTTTAAATACATGGTGTAGG
TCAGGCAAACGCTTCTTCACGAGGCTCAGAGGCCTGTGGGCTCCAGGTTCCTCCTCCCTG
TTGGGTTTCTCTCCCCAACAGATTAAGGGAGAGTGTTGGGGCCACCAACCCGCCACTGGT
CAAGTCACCAGAGCCTCCAGTGCCAGCTCCCTCCCTGGAGATTTCTGTCTTGTCCCCAAC
TCGTGGCTGGCTCTGGGGCTGGTTCCTGCCCCCGTTCCCAGCACACCCCACCCAGGCCTT
GTGTCCAACACAAACTGCAGCCAAGGCACAGCCCAAGCAGAAGCCATAAAACCAAACCAG
GATCCTAACTGCGGAGCCAAAGAGAAAATCTTGAGGACGAAGGGAATAACAAGGCTAGTT
GCAGAGATCACATTTTCCAATACAAAAATATAGGCATACATGTGTATGTAAGTGTGTATC
AATACACACATGCATGTAGACTGCTGATTCTCAATAGTCAAGGTAGTTATGTTCTAGAGG
CCAAGGCGGGCAGATCACTTGAGGTCAGGAGTTCAAGACCAGCCTGGCCAACATGATGAA
ACTGCATCTCTACTAAAAATACAAAAATTAGCCGGGTGTGGTGGCACAGACCTGTAGCCT
CAGCTACTCAGGAGGCTGAGGCAGGAGAATTGCTTGACCCGGGGAGGCGGAGGTTGCAGT
GAGCCAAGATTGCACCACTGCGCTCCAGCCTGAGCGACAGAGCAAGACTCCATCTCAGAA
AAAAAAAAAAAAAGGAGGGGGTTATGTTCTATAAAATCACAGCAAAAAAACTGAATCAGC
AAAAGCTGAACCATTGCTCCTAAGGGAGTTACTGGGTTAGGTTCCTGTGAACCTCTGGTC
ACAGCAGTTTTATCAACTCAGCAATGCAGAACTTTGTATGTGTCTTTTGGTTTAAAGACA
CCTTATTTAATAGCTATTGTTGGCTGGGTGTGGTGGCTCACACCTGTAATCCCAGCACTC
TGGGAGGCCGAGGCAGGTGGATCACCTGATGTCCGGAGTTCAAGACCAGCCTAGCCAACA
TAGTGAAACCCTGTCTCTACTAAAAATACAAAAATTAGCCGGGCATGATGGTACGTGCCT
GTAACCCCAGGTACTAGGGAGGCTGAGGCAAGAGAATCACTTGAACCCAGGAGGTGGAGG
TTGCAGTAAGCTGAGATCGTGCCACTGCACTCCAGCCTGGACAACAGAGTGAGACTCCGT
CTCCAAAAAAAAAGGAAAAAAAAAAGCTATTTTTGATTCATTAACATTGAACTCAACAGC
CAGCATCGCTACAACTCATGCCTGAAGGAAGCTCATCTAACACACATTTTCTCTGTAAGG
TATTTCACAGGCTTCCTGGACTGAGGAACACCAGCCGGCACTGAAGCTCTGGGCTTGGGA
GGCATTTAAACAGTGAAACTGTCAACAAAAAGCACAAAAACTTGAAAAACATGGCATTAA
ATAGACCATGAGGACACTTGTTTACCATTTGGGCATTGAAACAGGAAGGCAAAGCATTGC
CTCGCTTGACCTCAGCTGGGAATGTGTGCTTTGAGCAGCTCAGATTTTCTATCACTCTGC

FIG. 9E

CCGGCCCCAAAACCCACTTTGGAATCGCCTCGAGTATTGATTTGGGGGTTAGAAATAAAT
TTTAGCAAGTAAGTAAATTCCAAAATGCAGAATCCACAAATAATGAGGATAAATCATGTA
TATGTATGTGTGTATGTATGCGCTCACACACACACTTTTTTTTCTTTTGAGAGAGAGAGT
CTCGCTCTGTTGCCCAGGCTGGAGTGCATTGGTGCGATCTTGGCTCACTGTAACCTCCGC
CTCCCGGGTTCAAGTGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGACTACAGGTGCA
CGCTACCATGCTCAGCTAATTCTTTTGTCTTTTTAGTAGAAACGGGGTTTTGCCATGTTG
GCCAGGCTGCTGTTGAACTCGTAGCCTCAAGCAATCCACCTGCCTTGGCCTCCCAAAGTG
CTGGGATTACAGATGTGAGCCACTGCGCCCACCATCATATACACATAGATTTGCATAAAT
GTGTGTGTGTGTAATTTCTCTCCAGAAAGTCAAACCAAAAACCACGGTCTGTAATCAATT
TGCATTGTTCTGACTTCGTTTGCCAAAAAAAGAAAAGTTCCTTAAAGACGTTTAAAATGA
TTACATTATTGCGGCATTAACATTTTTATGTAAATTGGGTGTAATTTTTCAAAATACAAG
TATGTGACAAATGTGCATGCCGACTCAAATTAGTCTACAAAAAAAGGCTGTTAAAAAGTA
CAAAAAAGGTACAGGCACGATGGCTCACGCCTGTAATCCCAACGCTTCGGGAGGCTGAGG
CACGAGGATTGCATGAGTCCAGGAGTTTGAGACCAGCCTGGGCAACAAAGTGAGAACTCG
TCTCTATAAAAAATAAACAAAATTAGCCAGGCATGGTGATGTGTGCCTGTAGCCTCAACT
AGTCAGGAGGCTGAGGGGGGAGGATCGTGTGATCCCAGGAGGCAGAGGTTGCAGTGAGCC
AAGATTGCACCACTGAACTCCAGCCTGGGCAACAGAGTGAGACCCTGTCTCCAGAAAAAT
GAAAAACATGAAGTACCAAAAAGTTGACATTATTTCTTAAATTTTTTTCTGGAAATTTTC
AGGCAGGTCCTTTTTAACAACCATAGTAGTGGTAAACGGAACATATTTTAAAGTTATGGA
TGTAAAATGAGAAATTAAACTTTTTTTCCCCTATGTTGATTTGTCCTGTTGGAGGTGTGG
TTGGCGATAAAATGTGTTTGAAGAGAGCTGTTAACTATTTCAGTGCCAAAGTGTATCTTA
CACAAAAGAGGGGAAAACAGAAAACAGCAAAATCAGAGAAGTGCACAGCCAGTCTGAGGG
CATAAGGACCGAGGGAACACAGAGCAGGAAGGGATGGGCCTGCCGGGGCCAGGTGGGAGT
TGCCATTTAAAAGAGGGTGTCCAGGCCAGGTGCAGTGGCTCACGCCTGTAATCCCGGCAC
TTTGGGAGGCTGAGGCAGGCGGATCACTTGAGGTCAGGAGTTTGAGACCAGCCTGGCCAA
CATGGCGAAACCCCATCTCTACTAAAAATACAAAAATTAGCCAGGCGTGGTGGTGTGCAC
CTGTAATCCCAGCTACTCGGGACGCTGAGGCAGGAGAAATGCTTGAACCTGGGAGGAGGA
GGTTGCAGTGAGCCGAGATGGCGCCGCTACAACTCTGTTGCCAGCCTGGGCAACAGAGCG
AGACTTCATCTCAAAAAATAAATACATAAAAAATAAAAGAGCGTGTTCAGGGAAGGACAC
CCTTAAGTTAATTGATGTATTAGTAGGTACTAGTGGTATACATTTTTTTGATGTACATTC
AAATTTGTGTAAACACGAGAGGAGAATGTAATAATTTGCCTAGGTCAGCACCTCTGAAAG
CCACCTGCCACCTAAGCCCTCCTGTGAACTGAGAACAGCCCCGGGGTATGAGCCCTGTGG
AGAAGGTTCAGTGCGGGGTGCGTGGATGAGGCAAACAGGGAACTGTGTGGGGCCTTCCAT
GGAGCCAGCTGCGACCCTGACAACACTCCAAGTTTGGGTTTGTAGCCACAAGCCACAGCC
CCGCCCACCCAGGTCAGAAGGTGCGAGATGGGGCCAGTTTCTGGCTGGATGTGCATGAGC
CTATCTACTGTGAACTCTTAAAATCTTCCTGAGCCCCATGAGGGCTGTTGTTATCCCCGC
TTGCCAGATGAGGAAACCAAGGCCCAGAGAGACACGGCCCACCCAGGTCACGCAGAGGTG
AGGCCAGGATGTCGGCCCAGGCTGCGTGGCCCCAGAGCCCCCGACTCCCAGTCATCATGC
CATCAGCAAAGCAGGGCCACCGCCCGGGGCGGGGTGGCCATACCTTCAGCCGGTCCCGGA
AGCCGAGGACCTGGTACTCCAGCTCCCGGAGCTGGGGCTGGGTGGAGTCCGTGGGCCTCA
GCAACTCCAGGACCTCCTGCAGAGGCCCCTCGAGGGCCACGCCAGGCCCGTCCTCTCTGT
CCCCGGTTGCCCCTTCCTCGTGGCCGTTCTGGCTACTCGAGGCTGTGCCGCTGTGGAACA
GGGAGCCCTGTGGCAGGCTGGGGCTCTCCCCTCCTAAGTTCCTCCAGCCAGGCTGCTCTG
CAAACGGGCCTCCAGAGAGGTGGGCCATCTCTGGCAGGAGACCTGGGGGCAGGGGGTCCT
CCCGAGCCTCCTCTTCAATGGAGGCGTGGGGACCGAAGGTCAAGGGCAGGAAGCCCACAT
CTGAGGTGGACGCCGACGTGCTGGTCTCCGTGTCTCGGGGGTCCTCAGAGCTGAAGGAGT

FIG. 9F

CCATCTCAGGCAGCTCCTGACTCTGGCTTCTTAGGCTGGGACCCCGGAGGTCGCTGTCAG
ACAGGTAGCTGAGGATGGAGGTGGCCCTTGGGCCACCCAGCAGCAAGGCCTGCTGTGTTG
GCTGCTGTAGGACAGACTGGAGAGGGGACACGGGAGCGGCCTCACCAGCCACCCCAGGGA
CCACAGCAAGTCCCCCAGAGGGGCTTCCCCTGACAGACACCCGCTGTGCATGCCCATGTT
CTCAGGATGACTGAGGCCTGCCGAGGTGACCAGCATCCCAGAGGTGCAGAAAAAACCCTG
TCCCCTCTCTGCACTTATCCCCCATCCCGCCTCCAACTCACTCCCCCCAACCTCAACAGC
CTCCTGGCTATTGCTCATGCCCTGTGGGCTGGGCCCCACGTTCCTGCCTCAGGGCCTTTG
CACTGACTGTGCTCTCGTCAGAACACTCTTCCCCATGTGCCTTCATGGCTTGTGCCCTCG
CCTCCTCAGGACCTTACATAGGTGTCACCTCTCCTGAGAACCCTGTCCTGGACAGCCTTT
TTTAAGTGGCAATTTCTACCTGGCCCCAGTGGGCCCCTTCCCTTCCTGCTGTCTCCCACA
GTCCTTATGCCCCTGGGGCTGGCTGTGCACTTCTCGGATTTTGATATCATCTGTTTCCCC
TGTAGAATTTCAGCTCCCTGAGGGCACAGTCTTTGCCTGGCCTGGAGCAGAGGCTGGCAT
ATAGTTTCGGTTTTTGTTTTGTTTTGTTTTGAAATAGTCTCGCTCTGTTGCCCAGGCTGG
AGTGCAGTGGCACTATCTTGGCTCACTACAACCTTCATCTCCTGGGCTCAAGCAATTCTC
CTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGTGGCACTCCATGACGCCTGGCTAATTT
TTGTATTTTTAGTAGAGACGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGA
CCTCAGGTGATCCACCCGCCTCGGCCTCTCAAAGTACTGGGATTACAGGCATGAGCCACT
GCACCCAGCCTAGTTTTGGATGAATGAAGTGAATGAATGAATGAAGGGCCTGACAAACAC
ACCATAGAAACAGCAGCAGCTGTCATTAAGTATTCTGAGGTTGCCGGCCCTATTCCAGGG
CCTTCCCATTACCCTCACCACACCCCATGGGGGTGGCACTGCCCTAACCTCGGAGAGGTC
CTTAGGCCACACGGGTGGTGAGTACAGTGCCACAGTGTGAATCTGGGTACACGGACACGA
ACCCTTACCTCTCATCAGCTGAACCAATGATAATGGTTGATGTTCATTAACTCAGTTAAC
TCTCACAGTAATCCCATAAGGGCAGTGCTGTTATTCTCACTTCTCTGATACAGAAATTGA
AGTCCAGAGAGGGCTGGGCACGGTGGCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCG
AGGCGGGTGGATCACCTGACGTCAGGAGTTCAAGACCAGCCTGGCTAACATGGTGAAACC
CCGTCTCTACTAAAAATACGAAAATTAGCCAGATGTGGTGGCGTGTGCCTGTAATCCCAG
CTACTCGGGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGGAGGTGGAGGTTGCAGT
GAGCTGACATTGCGTGACTGCACTCCAGCCTGGGAGACAAGAGCGAAACTCCGTCTCAAA
AAAAAAAAACAAAGAAAAAAAAAGGCGTATACACTTGCTGGTAGATGGATTGCTGTCTCT
GGAAGAATATGGAAGAAACTGATGACAGGAGTTGGTATTAAGGAGGGGACCCTGATCCAT
GGAGATCAACAGGAAAGATGTTTTACTGGGCACTCTGTCAAGTACTACTACTAGAAACGT
ATATATTAAGGCCAAGGCCATGACTGGGGTGCTAGAACCATCCAGAGAGCCCACTGCAGA
TGTCCTGAAGAACCAGCCAAGCCCAGAACCCAGGCTAGGTTGGAGGCTGGCAGCAGAGGA
AGAAAGTGCACAGGAAAACACCCAGGATCGCCTCAAACGGAAGCTGAGCCCGAGGCTTGC
CATGTCTGGGAGGGCCAGACTGCTCAGCCCAGCTCCTGCGTGCTGCCCCCATCCCAGGGT
GACCACAGCGGCCCTGCCCCGGGAAGGCTCACTCACCAGGTAGTATCTCTCCCGGAAGCT
GGGGGTGCTCGGGGGTGTCCAGTTGTACAAGGAGCCCTTCCTGCTGCCCATAGAAAACTT
GCCCGTGGGGCTGGGTGACACCAGGAAGCTCTCAGTATCAAACGGGCTGGAGGAGAGAAC
AGAAGGTCAGGATGCCATCGGCACCCAGAGGCCATTTCAGGCCCAGACGGCCCACAGGGC
TCTTAGGTTATGCAGGTAGATGGTCTTCATCTTACAATACAATAGCATGGATGGTGTGTG
AGGAGCTCTGCTCTAAACTGTTGCTTGTTTTTGAGACAGGGTCTTGCTGTGATGCCCAGG
TTGGAATGCAGTGGTGCCACCACAGCTCACTGCATCCTTGAACTCCTGGGTTCAAGCGAT
CCTCCTGCCTCAGCCTCCTGTGTAGCTATGACCACAGGCATGTACCACCATGCTGGACTA
ATTTTTAAATTTATTTTTATTTTTTGTAAAGACAGCGTCTTGCCATGTTGCCCAGGCTGG
TCTCGAACTTCTGGGCTCAAGCAATCCTCCTGCCTCAGCCTCCCAAAGTGCTGGGATTAC
AGGCCATGAGCCACTGAGCCCAGCCTCTACTAAACTCTTTACACAAATCCTTATTTCCAC

FIG. 9G

CCCCAAGACAACCCTCTGTGGCCTGGAGAATTATTTACAGGGGAGGAAAGGAAGGCTCTG
AGAGATGAGTGACTTGCTTAGGGCAGTGTCACAACCAACCACGCGAGACGGAACTGAATT
CACACACAGATTTTCTCTGACCCCAAAGCCTTAAAGATCACTAAGAGTGATGCTTACTCT
TCAGACATCACTGTACTTAATGGATTTAAGAGGAAATGGGCTGGGTGCTGTGGCTCACAC
CTGTAATCCCAACACTTCGGGAAGCCAAGGCAGGCAGATGACTTGAGCTCAGGAGTTCGA
GACCAGCCTCCATAACCTGGCAAAACCCCCGTCTCTACAAAAAATGAATACATTAGCTGG
GCTAATGTGGTGACCAACAGACACTTGTAGTCCCAGCTACTCAGGAGGCAGAGGTGGAAG
GAGCACCTGAGCCTGGGAGGTGGAGGCTGCAGTGAGCCGAGATCATGCCACTGCTCTCCA
GTCTGGGGCAACAGAGCAAGACTCTATCTCAAAAAAAAAGAAAAAAAAAAAAAGCAAAAT
AAAACAGGAAATGGAGGCTTGGGCCTCCAAGTCCAGGGCCTTGCCCATGGTCACAGGTGC
AGCCTAGGAACTCCAGGTTACATGACCTCTACCCCTTTAGAAACCTTTCTCAAGGCTGGG
CGTGGTGGCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCAAGGTGGGTGGATCGCCTG
AGGTCAGGAGTTCGAGACCAGCCTGGCCAACATGGCGAAACCCCATCTCTCCTAAAAACA
TAAAAAAATTAGCTGGGCATGGTGGCAGGCACCTGTGATCCCAGCTACTTGAGAGGCTGA
GGCTGGGGAATCGCTTAAATCTGGGAGGCAGATGTTGCAGTGAGCCGAGATTGCGCCATT
GCACTCCAGCCTGGGCGACAGAGCGAGACTCTGTCTCAAAAAGAAAAAAAGAAACCTTTC
TCAGACTCTGACCGCCCTGAGGGCCCTTAGCCAGATGGTGAGGGACAGTGACTGTGAGCA
GGAGAGCAGGATCTGGAGGCAGGAAACCTCAGGTCAATTCATGCTAAATCAAGGAAAGAC
ACCAAGGTCTGAAGGGACAGGGAATCTAAGGCCAATTAACGCAATCTTCCTAAAGCTAAC
CCAAAAGGAAAAACCCCGTCTCCCCACACTGAGTAGTAAAGGATCAAAGGCAACGCTCCC
TACAGCCCTCCTGCCTCCAACCATGGCTCAGATGGAAAGGGAGGGTGTATGGATGGGCCG
CTGGCGAAACAGGGACCATCCCTCTATCTGCATAGGGCGCCATCCACCTCAGCCTCTAAC
CACAGACCAAATCCTTTATCCAGAAAAGGGGCAGCCCATAGGAACCTCAAACAGGGTACT
TAAAGCCCAGAAACTTTGAAACCATGCCCTTGAGCCACATGCTCGGGCCCACTCCCACCC
TGTGGAGTGCTTTCTTGCCTTTTTTTTTTTTCTTTTTCTCTGAGACTGTCTTGCTCTGTC
ACCCAGGCTGGAGTGCGGTGGCGCCATCTTGGCTCACTGCAGCCTCCGCCTCCCCGGTTC
AAGCGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGAAACTATAGGCCCGTGCCACCACGC
CTGGCTAATTTTTGTGTTTTTAGTAGAGATGGGGTTTCGCCTTGTTGGCCAGGCTGGTCT
CGAACTCCTGACCTCGGGTGATCTGCCCACCTACGCCTCTCAAAGTGCTGGGATTATAGG
TGTGAGCCACCGCGCCCAACCTGCTTTCTTGCTTTAATAAAGTCCTGCTGCTTCATTCCT
GCGTTTCATTCCCCTGCTCCTTTTCTGCATTTTGTTCAAGTCTTTGTTCAAAATGCCAGG
GACTTGGACAACTCATTGTCAAGACCCTCCACCAGTAACAACTGGACACCCCCAGTTAGA
GGCCCCTTTGAGAAGCTCAGCCGATGAGCAGGGGACACTCGGTTCAGACCCCTTGTCTGT
AAAAGGGGTGCGCTTACAGAAGAACCCCCATGTGGAACATGCACAGGGAAGGGTGGGAAT
CCAGGCGAGCGCATGGGAGCACCGAGGCAAGTGATGCTCAGCCTGGCCCGTGATGCTCAG
CCTGGCCTGTGTCCAGCCTTGCACTCGGAGTAGGTAGGTCCCCATAGATCCATTTGCCTC
GAAGAAACTTGCTTATAATTATTTGCACAAAGGCCTGGCTCGTGGCACCTGGGCCTGGCC
TGACCAGAAGGCCTAGAGCTCAGAGGCTCTGCAAGTGCCCACTTCTCTGCCCAGGGTGTC
TGCAGACCCGCAGGCACCCTGGGTCCTAGGCTTGGATGGCACTGAGCTGCCCGCCACCCT
GTACACTTCAGGGGCCCCTGGGCGAGGGGTATTCTCAGCCCTACCAGACAGGTGAGGACC
CCGAGGGTGCAGGTGGTCGCTCAACAGAATTCACCCAGCTCACGAGGGAGAGGGCAGCAG
CTTTGTGACCCCCAGCTCGGACACCCACCCTAGGGAGAGAGGAGAGAGACCAGCCCCGAC
TGGCCAGAGCAAGCACAGAGCAGAGGAGTGTCCTCAGCCCTCCCTTCTGCTGCCTCTGCG
CTGAGGAGGAGGAAAGGAACACCCTGGAAATGCAAGGCTTCCTTAGAACAGAGAGCTCTG
GAGCCCTCCACGCTCATGGGCATGCAGTCCAGGGAGTGATCTCATGGACATGGGCTTCAT
GGGTCTGCAGCCGAGAGGGGGACGCAGGTGACCGCTCAGCCCCAGGCCAAGGGGGCAGCC

FIG. 9H

AGGGTCGGCCAGGAATGAGGGGGTGGGAGCAGCAAGGAGGGCCTTCCTGGAGAGGTGAGC
CTCCTCCAAGGAGCCAAGCCCGGGAGGCCCCGGAAAGTGTCCCCCCAACCTTCCCTGTGG
CTTTAATAGTCAGGGGTTCAGAAGCAAGAAGGGAAGCAAAACCAGAAAGGCAGGCAGGGG
CTACAGAGAAGTTCTAGGCCTCGACCTGACTGAGGGGTGGGAGTGAGGGACAGATGAGGA
CCCGTGAGGGCAGGGACACCCTTGGCAGAGGCTGGTGCAGGAACCCAGGGCCAGAGTGTG
GCCAGGCCACCAGGGGCAGCCAGCCAGGCCTCCGCTCTCCCCAGGCTGGACGGGACTCAC
TTCCACTGCACCTCCAGCTGCAGCTTGATGGTACCCAACTCCGTGATGTCCACCACGATG
ACCTGCGGCCGCGTCGTGAAGAAGTCGGCGATGTCACACGTCACTGCACCCACAGCCAGC
GAGCCCAGGCCCCGCAACTCCGTCACCTGGGGGTGGGGGCTGGAGGGTGGTGTCTGAGCC
GAACACCCAGGCACCCCAGCCCTGCCCCCGGGCCCCATCCCCACCTTGATGTCCAGGTTC
TCATGCAGCGTGGGGATGAAGGCCTTCTCCTCTTCGTCCCAGGTCTGGCTGTCATCTGAC
TCGATCCGACCCTTGAGCTTCCAACGCTGGCGGCCCAGACGCATGAGCACCTGTGAACCA
GCCCGAGAGGGGCCGCGTCAGCCCAGGTGGGTGTCCCCTTGCTGTCCGCCCAGGGCCCTC
CCTGCCAGGCAGAGCCCCAGCTGCAACCCTGGTTCCCAGCAGCTCCCGTCCCCCAAAGAC
CTGGCGGGGAGCCCTGAGGATTGACCCCAGAGAGTGGCCGTACCTCATAGTGGTCTCCGG
GACAGAGGCGTGCGTAGCCCACCAAGCCTGGAACACAGACATGGCCGGTCTCCCCTCCGC
CTTCCACTCTCCCTGACCTGGGACCACAGGTCCTCTCTGGGGTTCCCCCGAGTATAGATT
TTCAGTTTCAGTGGGGTGAGGATGGGGGGGAGGTACACCATCATGATGGAAAATGGACAG
AGGGTGCTGGGCCCTCACACCAGGCTCAGAGAGGGGTGGGACTTGCCAGAAGTCACATGT
CACATGGATGCAAAAGCCAGGGCTGGGCTCAGACCCCTGGGATTCTGGCCAATTCCCGTG
CCCCTCAGCAGAAGTCTCAGGGCCTCCAGAAAGGCCTCCGCCCACCCCCTCTCAGCCCTG
TTACCTTTCATCCTGATGTGGAACTCGCCCAGGTGAACCTCCAGGGCCCCCTCGATGAGC
CACATGTCCTGCAAAGCCCCGGAGGTGGCTCAGCTGGCTGCCTGGGGCTAGGCCACGAGG
GCCTCTAACCATCCCTGCAGCCAGACAGAGGCCACAGGCAGAGAGACGCCTCCTTGGGGC
CCAGAACACCTCCTCCAGCCCCCACTGGCCCAGCTCTCGATGTCCCCACTGCCCGGCCCA
GCTCTTGCTGCCCCTGCTGCCCAGCCCAGCTTGGCCCGGCCCACCTCGGCGCACTCGTGC
AGGCTGCGGCCCAGCTCCTGCAGGCTCTCTCGGGCTGCGCGGCTCGGGGGGCACCGGGCG
AAGGCCCGCTGCATGCTGGAGGCGCCGTCGCGCAGGCGGCACTGGATGCAGTAGTCCTCG
TACAGCTCATCCACCTGTGGTGGGCACACGGGCTGGTGGCGCTGCCCACGCGGAGGGGCG
GCCCCACACCTGCCTGTCGACTTCTCCTCTCTGGGAGAGGCCCTCCCTGAGCTAAGCACC
CCGCTAGCCCAGCCCATGGTGACAGTCACTACCTGTCCAGTCCCATTCAAAGCAGTCACC
CCTGGCCCCAGTAGAACATGAACCCCCATAGGCAGGGACCACATCTGCCTCACCTGCCTC
ACCTGCCACCACTGCCTCACCTGCCACCCCTACCACCCCTGCCTCACCTGCCACCCCTGC
CTCACCTGCCACCCCTGCCTCACCTGCCACCCCTGCCTCCCCTGCCTCCCCTGCCACCCC
TGCCTCACCTGCCACCCCTGCCTCACCTGCCACCCCTGCCTCACCTGCCACCCCGGCCTC
ACCTGCCACCCCGGCCTCACCTGCCACCCCTGCCAACCCTGTCTCACCTGCCTCTCCTGC
CTCTCCTGCCACCCCTGCCAACCCTGTCTCACCTGCCTCTCCTGCCTCTCCTGCCACCCC
TGCCTCACCTGCTGCATACCCAGCTCCTGGCAGCGACTGGCACACAGTGTGCACAGCAAA
AATGAGTGAAAGGGACAAGGGAATCTGTCCCTTCACCTCCTCTGCCTGGTTTTTCAACAA
TGAAATGGGAGATGACTTTGTGATAACCTGCCACCCACTGGGCAGTGTGGGGAGTAAAGC
AAGATCATGAAACCGTTTGCAGACTCTAAAGCTTACAGATCTGCTATGCGACCTTGGGCC
AACCCATGTTCATCTCTGGACCTCTGCTTTTCCAACTGTACAATGGGCTGGGAGGGCTCA
ACCTTCCCAGCCATCTAAGACTGAGCATGAGGTCTTTCTGCATAAACTGAAGAAAGAGCC
CACACAGTCCTCAGGGAGTCCCACCTCAGGGCTGAGCCCCCTGACTCCCACCTCAGGGCT
GAGCCCCTGCTGTCCTTCAACTGGCCCGAGGCCCCTGCTCATCCTTAGCCTCCTGCAGCT
GCCCCATACCCAGAGGCCCTGATCCCTGTTTCGAGGGCACCTCCCCAGCTCCTGCTAACC

FIG. 9I

TAGCTGAGGCCCAGCAAGCTGGCACTGCCCCACCCCACCCTGCAACATCCACGAGCCAGC
TGACCTTGCTGATGTGAAACTCCATCTTCCGAATGTGCCTTTCCACACAGCGCGTTTGCT
TCTCCCGGAAAAAGGGAAGATGTTTGCAAAGTTGCCTGGGCCACCCACCTGCCCCGCTTG
CCCCTGCCACCCTCCTACAGGTCCTAACTCAGAGAATGGGGCCCCTCACCATCCCTGAGG
AAGGCTCATCGCAGAGACTCAGCCTTCCCATTCCTAAAATGGGGAGGAGACCCAGGTTTT
CTGCCCATCAGGCAGCCAGGAAGATGCAATGAGGCACAGTCATTCTCATCCAGCCAGGCC
CAGCCCACCTCACTCACCGTATGCAGACTCACCTTGTCCAGGTCATAATAGAAAGCCTGT
GAGGGAGGAAAGGAGGGCGGAAGAAGCTGTCAGAGTCCCACATGTTCCTCCAAGGCCTAT
GAGGCTCTATGCTGGCGGCGCCTGAGCTCAGAGTCAGAGGACAGAAAGCCATGTCTACAG
CCACCCCCACCCACTCCTTCCTCTGCCAACGGCAGACTGCTGTCCACGCCAAGGACAGCA
CTGATTAAACACATGCACGTGGGATGAGGCAGTTCTAGGTCTGGCTCTTCTATTTCCCAG
CTGCGTGTCCCAGGCAAGTCATTCAGCCTTTCTGGGCCTCCGTTTCCTCCTATGTAAAGC
AGGGTAGGAGAAGCGCCTACCTCACAGGGAGAAAAAAGGACACAGTAGGCCCTTGACAAA
ATGGGAACCATTGAGATTGAAGGAATGGCCTCGGCCATGACAAAAGAACATGAGGGGGAT
GGAAGCGGGAGGGGCACATGGCACAGCAGTTCAGGCCTTAATGGTGAATTCCTAAGTCTA
TCCATTCCAGGGGCCAGGGTGCGACCAACACAAATAATATATCATCAGGGCAGGCAAACC
TTTCTATAGGTTTGTAAAGGGCCAGAGAGTAAATATTTCAGGCTTGGCAGGCCACGGCGC
CCCATGCCAAGATCTATAAAGTAGGACCATCCTGGCCAGGCGCAGTGGCTCACGCCTGTA
ATCCCAGCACTTTGGGAGGCTGAGGTGGTCAGATCACTTGAGGTCAGGAGTTTAAGTCCA
GCCTGGCCAACGTGGCGAAACCCCATCTCTACTAAAAATATAAAAAGTAGCTGGGTGTGG
TGGTGCATGCCTGTAATCCCAGCTACTTGCCAGACTTGAGGCAGGAGAATCACTTGAACC
TCAGAGGTGGAGGTTGCAGTGATCTAAGACCGTGCCACTGTACTCCAGCCTGGGTGACAG
AGCGAGACTCCATCTCAAAAAAAAAAAAAAAAGAAAAAAAGTAGGACCATCTAAAACATA
CACACCTTTGCCTACCTTAGAGTTACTTCTAGAACCAAGAAAGAGTGTGAAGTGGACCTA
AGACATGGGAAGTGCTGTACCTGCCTGTGGGGTTAAATTCATCAGGGTCAAAGTTTTGTC
CTAACTAAGCAACTCTGCCATCATAGTGGGAAAGCAGCCACAGACAATATGTACATGAAC
AAGTGTGGTCAAGAAACATTTTTTTAAACAAGTGTTTAAAAAAACTCTTGTTTTTTAAGT
GACTCTAATTTTAAAATATAGTGACTCTAATTTTCACTGGCTGTTAATTTCCAGTGGAGA
TTAGAGTCACTATGTCTGAGTCTGGAGGGGTTACCATGGGGTTGTAGATCCACCAGGGAG
GAAAAGTAAGCTGTAGGAGAGTATGTAAATTGACATTTCATTTTTGTAAGACAATTTTAA
CTCACAATTGCTAAACACATTTACATGATTATGTGACCAGAGAGAAAAATATGGAAAGAT
CAATAAAAGATTGTTCTCAAGGGTTAAACGGGATGGGACACGGAAGATTGAATAGAGGAG
GGCGTCAATCGAGAAAGAAAGAAGGATTCAACCCCAAAAAGTCCCATGTATGTATTTATG
TGGAATTGTACATATGCGATAATGAAATAAAAATTCCATTTAAGCCAGGTGAAGTGGCTC
ACACCTGTAATCCTAGCACTTTGGGAGGCCAAGGCAGGAGGATCACCTGAGCCCAGGCAT
TCAAGACCAGTCTGGGCAACACAGCAAGACCCCATCTCTACAAAAAATTTAAAAATTAAC
TGGGCATGGTGGCACACACCTGTAGTCCCAGCTACTTGAGAGGCTGAGGTAAGAGGATTG
CTTGAGCCCAGGAGTTTGAGGTTACGGAGAGCTATGATCGTACCACTGCACTTCACCCTG
GGTGACAGAGTAAGACCTTGTCACTTTAAGAATAAATAAATAAAATCTTTTTAAAATTAA
GAAACAATTAAAACTCCATTTAAGAAATAAAGAAACAGGATGGGTGTGGTGGCTCATGCC
TATAATCCTAGCCTTTTGGGAGGCCGAGGTGAGTGGATCACCTGAGGTCAGGAGTTGGAG
ACCAGCCTGGCCAACATGGTGAAACCCCCTCTCTACTAAATAAAAAATACAAAAATTATC
CTGGCATGATTGTGCGCGCCTGTAATCCTAGCTACTCAGGAGGCTGAGGCAGGAGAATCA
CTTGAACCTGGGAGGCAGAGTTTGCAGTGAATGGAGATCGTGACACTGGACTCCAGCCTG
GGTGACAGAGCGAGAATCCATCCCGAAAAAAAAGAAAAGAAAAGAAAAGAAATAAATAAA
GAAAGAGGAAAGATCCCAAGCCTTTGAAAAGAAGAGTGACTACCCAGCAACGTCTCAAAA

FIG. 9J

ACCAACATCTTGTTTCAATGAGAACCAGCAGTGTCATGGGAGCAGGACTCGACATGGGCA
TCTTGCTGTGTGGCTCCAGTGCGGTCACTGTGCCCTGGCCTCAGTGTGCCCATCTATGAC
ATGGGAGCAGCTAAAACATACAAGTATTTATACTCTTGCCTGCTTTAGAGTTACTTCTAG
AATGGAAAGAATGGGAAACGAAGTCCACGGGGTGAGACTCACTGTACCCATGTGAGAAGA
GGGGCAGGTGCTGGAGCTGGGTGATATCTTGGCAGCACCTTCTCCCACCATCTGCTGCTG
GTCACCCGCCCAACTGTCCACTAAGGGTGAGGCATGCTGAGCTTGGCAGGCCTTTCCCTC
CCCAAGTCCCTGGCACACACATGAGGCTGGGTCCTTGCCTCTCCTACCCTGCCCACCCCG
AGGCCCTCTCTGCTGGAGCCAGGATACAGAGACGGCCGCTTGTTTGCTTGCTTATTTCAT
TCATTCATTCATTCATTCATTGAAACAGAGTCTGGCTCTATCGTCCAGGCTGGTGT
GCAGTGGTACGATCTCACCTCACTGCATCCTCCGCCTCCTGGGTTCAAGCTATTCTCCTG
CCTCAGCCTCCCGAGTAGCTGGGACTACAGGCACCCGCCACCACGCCTGGCTAATTTTTG
TATTTTTAGTACAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGATCT
CGAGTGATCCACCCGCCTTGGCCTCCCAAAGTGCTGAGACTACAAGCGTGAGCCACTGTG
CTGAGCCACTGGATGCTATTTTGGTAGAAAAACTCATCTCCCCTCCTCGCTTTCCCAGTC
CCTCAGTCAAGCTGGTGGCCTGTTCTGCACATTGGTGCTTTGGAGGAGGGATTCTGGGAA
ACACTGGCTGGGAGGAGAATCCCACAGTAGCAAGGCCTCCTTGCTTTTGTCTCCAAATCT
AATTCATTAAGGACATGTGGGGTTTTCTCAAGGCAGCAGCGGAGAGACTTCCCAGATGAA
AGGAAGATCCTCCTGCTGAAAGGATGAAGTCCCTGAGCAATGGGATCCTAGCAGTGTCAC
CAGATAAAATACAGGACACCTAATTAAAATTAAAATTTCCAATCAACAAGGAACAATTAT
TTTAGCATAAGTATGTCCCAAAGATTACATGGGATATACTTATACCTAAACAAATTTGTG
ATTTGTCTGAAAAACCAATTTAATGGGAGGCCGGGCACAGTGGCTCATGCCTGTAATCCC
AGAACTTTGGGAGGCAGAGGCAAGCGAATCACTTGAGGTCAGGAGTTTGAGACCAGCTTG
GCCAACGTGAAACCTTGTCTCTACTAAAAATGTGAAAAAACAGCTGGGCGTGGTGGCGGG
TGCCTGTTATCCCAGCTACTCAGGAGGCTGAGGCAGGACAATCGCTTGAATCTGGGAGGC
AGAGGTTGCAGGGAGCCGATATCACACCATTGCACTCCAGCCTGGGCAACAGAGTGAGAC
TCCATCTCAAAAACAAAACAAAACAAAACAAACAAATTTAATGGGGCATGCTATTTGTGA
GTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTTGCTAAGTCGGTCTCTGCTAAG
GGAGAGGCAAAAAACCAGAGCAGGTGAGCCTTGGGCAACACAGGGCCCAGGGCCAGCCTG
AAAGACACTGCCTTGGCTGGCACAGTGCCTCACACCTGTAATCCCAGCACTTTGGGAGGC
CGACACAGGAGGATTGCTGGAGCCCAGGAGTTCAAGACCAGCCTAGGCAACATGATGAGA
CCCTGTATCTACAAAAAATTTAAAAAATTAGCTGGGCATGGTGGTGCATGCCTATAGTCT
CAGTTACTTGGGAGGCTGAGGTAAAAGGATCGTTTGAGCCCAGGAGGTGGAGGTTGCAGT
GAGCCGGGATTGTGCCACTGCACTCCAGCCTGGACAACAAAGGGAAATCCTGTCTCAAAA
AAAAAAAAAAAAAAAAAAGACACTGCCCTGATGATGGCAGGAAACGCTGCCTGTCAGCTG
GGCATTGAAGGAACACGCAGGCTTCATCAAGGACAGCGGCAGAGGCCACTGTGACATACC
CAAGATGTGACACCTGACCCACTTTCCTGGCATTACAGAAGCCATCCCAAGTCCAGGTCA
CCTGATGGCCAAGGTCTATAAAATAGGACCACCTAAAAGAAATGCACCTCCATACACTGC
CCACCTTAGCATTACTTCTAGAACCGAGAGACAGTGTGACATGGGCCTAAAACGTGTGAA
CTGCTGTACGTGCCAAAGTGAAGTTAACTCAGTGCAACGTGAAGAGGCTATTCCATAAAC
CTCTAGTTCTGAGAAAGAGTCACACCGTGACATAGGCTAGAAGGAACGCAGGGTTCATCT
TTTACTCCTGGCCAAGGCTATCTGGGTGGGAAGCAGGCAGGGAGGGGTCTCACCAGCCTG
GAATTCCTCCTGGTGTCTTTGTGGCGTCCAGACAGGTGGTCCAGCTCAGCCTGCTGCACA
CACAGATACTCCCTGCAAGGAAAGCAAGGAAGAGTTTCAAATGGAAGAGGAAGAAGAAAG
GGAAAGGAAGTAGGCCAAATGGACAATGTCCCCACGTGGAGAGCAGACACGGGGCTCAGC
GGGGCTCAGAGGCAGGTAGGAAGCCAGGCTCCCTCACACTGGGGGCTGTGTGCCCAGCAC
CACACAAAATTGGTTACAGGGAAGTTCCTAGTTAATTCCCCCACCAGGCCCACAAGTAGC

FIG. 9K

TTCTACTGTTATTATATGCATTTTCTTTCTTTCTTTACTTATTTATTGTTTGAGACAAGG
TCCCCCCTCTCTCGCCCAGGCTGGAGTGCAGTGGTGTGATCACAGCTCACTGCAACCTCT
ACTTCCTGGGTTCAAATGATTCTTATATCTCAGCCTCTTGAGCAGCTGGGACTACAGGTG
TGTGCCACCACACCTGGCTGATTTTTGTATTTTTAGTAGAGATGGGGTTTCACTATGTTG
GCCAGGCTGGTCTCGAACTCCTTGACCTCAGGTGATCTGTCTGCCTTGGCCTCCGAAAGT
GCTGGGATTACAGGGGTGAGCTACCGCATCCAACCTAGTATATGCATTTTAAAGATAGAC
AAACCAACCCTTGAAAGCAGCAAGTACCCCAGCCCCGGTCACACAGCAGAGAAGAGGCTG
AACCCACGTCTGAAACCACACAGTGGCCTTCTGAGCCCAAAATCTTCATCCCCATGTTAT
ACCCCCTCCCAAGCTGGGGCCCAGCTCATGGGGAGGTCATCATGGCACACCTCCCTCAAG
GTCAAGGGTCTAGGCCGGGCGCCGTGGCTGACGCCTGTAATCCTAACACTTTGGGAGGCC
GAGGTGGGCGGATCACAAGGTCAGGTAATCGAGACCATCCTGGCTAACACAGTGAAACCC
CATCTCTCCTAAAAATACAAAAACTTAGCCGGGCATGGTGGCACACACCTGTAGTCCCAG
CTACTCGGGAGGCTGAAGCAGGAGAATTGCTTGAACCTGGGAGGCAGAGGTTGCAGTGAG
CCGAGATTGCACCACTGCACCCCACCTGGGCAACAGAGCGAGACTTCATTCCAAAACAAA
GAAGGTGGGGGGCGTCTAGATTTGGGGGCCAAGGCAGGGAGTCCCATCTTGCTGGATTTG
CTGAGTCATCCCAGGAAGGTCACTCACACTCTCTGGGCTCTACTGACACCACCTCAAATG
TGGAAAAGATAGCTTCTGCCAGACTGCTACTCACTGAGGTATTGAGCTCTCTGGGAAGAA
GGGGCTGCCTTGGCCCCAGACAAGTCTCAAACATGTGGTCCTTAAAGGACACAGAATCTG
TCCTTCAGAAACATGCTCTATCGTCCATGCACATCCCAGCTCCCACTCTGCACAATCCCA
GCTTGCTGCAGCCTCCACCTCTACAGGATTTTGCCATATTCCCATGCTGGTCTTGAACTC
CTAGGCTCAAGGAATCTGCCTGCCTCGGCCCCCCAAAGTGCTGGGATTACAGGGTAGCCA
CCGCTGTGCCCAGCCAAGGATGTCTATTTTGAAAACCATTTCATTCTAAGGTGGTTTCCC
TTTTTTTTTTTTTTTTTTTTGAGTCTTGCTCTGTCTCCTAGGCTGGAGTGCAATAACGC
GATCTTGGCTCACCACAACCCCCACCTCCCGGGTTCAAGTGATTCTCCTGCCTCAGCCTC
CCGAGTAGCTGGGATTGCAGGCATGCCCCACCACGCCGGCTAATTTTGTATTTTTAGTAG
AGACGGGGTTTCACCATGTTGGCCACGCTGGTCTCAAACTCCTGAATTCGTGATCCGCCT
GCCTCCGCCTCCCAAAGTGCTAAGATTACAGGCCCACTGCGTCTGGCCTGGTTTCAACTT
TTACTTGACTCTGGTTCCTCTTTGGGGTGCCCCATCTATAAATAAGAGATGTAGGGGCTG
GGCGTGGTGGCTTATGCCTGTAATCCCAGCACTTTGGGAAGCCAAAGCAGGTGGATCACA
AGGTCAGGAGTTCAAGACCATCCTGACCAATATGGTGAAACCACGTTCTATTAAAAATAC
AAAAACAAATTAGCCGGGCGTGGTGGCAGATGCCTGTAGTCCCAGCTCCTCAGAAGTCTG
AGGCAGGAGAATAGCTTGAACCCAGGAGGCAGAGGTTGCGGTGAGCTGAGTGAGATCACA
CCACCGCACTCCAGCCTGGGTGACAGAGTGAGACTCCGTCTCAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAGGCGTAAGTAGGAGAGAATTTAGGGTCTAAGTACCACTATATCTGGG
GAAAATCACTCCAGAAACCACTCTTTGGCCCACAGGGCCCCCTGTCATCTGGTCCCCATT
GCCCCATAACCTCATCCTCTTTCCTTTGGCTCTAGCCACGCTGGCCTCCTTGCTGCGCCC
CAGGGCCTTTGTGTATGTGGCTACCCTGGCCTGGAATGTTCTTTTCCCCTTCAGGAGTGT
GCTCCAATGTCACCTTCTTAGCAAGGCCTTCCTTCCAACTGCCCAACTTAAAATGAACCC
TCCCTGCCTCTGCCTGCTTACCCTGGCCTGTTTTCCTCTGTGGCCCTTACTACCATCTGA
TATTCTCTGTACTTTTCTTTTCTGTATTGTGTATTGTCTGTCTCTCCCCCACTAGGAGTC
AGCTCCACAGGAGGTAGGGATTTTGTGTGTTTAGTTTACTTCTGTCCCCTGGCCTGGCAC
TCTGTAAGCCCAATAAATATTTGTGGGCTGGGCACAGTGGCTTATGTCTGTAATCCCAGC
ACTTTGGGAGGCCAAGGCAGGCAGATCACTTGAGTCAGGAGTTCAAGACCAGCCTGGCCA
ACATGGCGAAACCCAGTCTCTACTAAAAATACAAAATATTGGCTGGGCGCGGTAGCTCAC
ACCTGTAATCTCAGCACTCTGGGAGGCCGAGATGGACAGATCACCTGAGGTCAGGAGTTC
GAGACCAGCCTGGCCAACGTGGTGAAACCCTATCTCTACTAAAAATACAAAAAATTAGCC

FIG. 9L

AGGCGTGGTGGCAGGTGCCTGTAATCCCAGCTACTCGGTAGGCTGAGGCAAGAGCTACTC
TCAGCCTCTGCTTTCTCATCTGTAAAATAAGGAGGCTATGCCAGGTGCAGTGGCTCACGC
TTGAACCCAGGAGGCGGAGGTTGCAGTGAGCTGAGATCACACCATTGCACTCCAGCCTGG
GCAACAAGAGCAAAACTCCGTCTCAAAAAAAGAAAAAAAAAAATTAGCCAGGTGTGATGG
TGCGTACCTGCAGTCCCAGCTAGTTGGGAGGCTGAGGCAGGAGAATTGCTTGAACCCAAG
AGGCAGAGGTTGCAGTGAGCTGAGATTGTGCCACTGCACTTGAGCCTGGGCAACAGAGCG
AGACTCCATCTCAAAAAAAAAAAAAAAAAAAATTTGTGGAGTGACTCATCCTTCTTGTGC
AGGCCTCGGCCCAGCTCATCAGTTGGTCTCTGAGCAAGTCTGTCCTTCACTCAAACACCC
ACCGCCCTGACCTCTTGCGTGTGTGGGCTCACAGTGCAGGCTCCTACTGTGGGGCCTTTG
CCCACACTGTTGCCTGTCTGCCGAGGCCCTCGACGCACTGTCTCTCTGTTACCTTTCTTC
ATTGCACTCAGCACAGGTGGAAGTTCTATGATTGATTGCATTGCTTCTTGATTGATTGCA
TTGAATCTGCCCCTCTGCAGTGCGTGCTCCACAAGATCAGAGTCCTCCTGCCTTAGTCAC
TGCCAGGTTTCCAGTGCCCAAGGACCGGGCTGAGCACGCGGCTGCACCCTGACATACTTG
CTTACTAAACGAATGACCAGGAACTTAACCTGTCACCTCTTGTAGACAAGACCCATCCAC
GCTTCCCCAGGAAGAGACAGAGAGGAGGCGAGGTAGAGGAATGCACTTCTTAAAGGCAGC
ACACAGCCCAGCCTTACTTGAGGCCTCTTTTCAATGCTTCGAAGATCTTCTTCACCTGCT
GGGGCTTCGGGTCTGCACAGACCGACCCCTTCCGCAGCGTGCCGTACATCTTGGAGGATT
TTGCAGGCATTCGCGATCTCACGGAGTTCCTGTTGATGGACTTTCTGTGAGAAGGGTTGG
AGGGCAAGAGAAGTCAGAGAAGGGCCCTGACAAAGCCCTCCCCAGGGGCAGGCACTTTGG
AAATAGTGACCAGAGCCACAGGGAGTCAGGAGACCCGGCTCAGTCCCACCCCCATCACCA
CCAAGCAGTGTGGTTTCCAGAAAGTTATGGAGCCTCTCTGGGTCTCTGCTTTCTCATCTG
TAAAATTAGGATCCTGGGCCAGGTGCGGTGGCTCACACTTGTAATCCCAGCACTTCGGGA
AGCTGAGGTGGGTGGATCACCTGAGATCAGGGGTTCAAGACCAGTCTGGCCAACATGGCG
AAACCCTGTCTCTACTAAAAATACAAAAATTAGCCGGATGTGGTGGTACGTGCCTGTAAT
CCCACTTACTCCGGAGGCTGAGGCACAAGAATCGCTTGAACCCGGGAGGTGGAGGTTTCA
GTGAGCCGAGATTGCATCACTGCACTCCAACCTGGGTGACAGAGTGAGACTCAGTCTTAA
AAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAAAATAAGGAG
CCTAGATTTGAGGATTAAAAGAAGAGTAATAAAGCTTTTCCACCATGGCTGCCACTGGAG
AGCAGCAGCCATGGCTCTGCGCTACCCTATGGCCATGGGCCTCAACAAGGGCCACAAGGT
GACCAAGAACGTGAGCAAGCCCAGGCACAGCCGCTGCAGTGGGTGTCTGACCAAATACAC
TGAGTTTGTGCGGGACATGATCCGGGAGGTGTGTGGCTTTGCCCTGTACAAGCAGCATGC
TATGGAGTTACTGAAGGTCTCCAAGGACAAACAGGCCCTCAAGTTCATCAAGGAAAGGGT
GGGGACACACATCCACGCCAAGAGGAAGCAGGAGGAGCCGAGCCAATGTCCTGGCCGCCA
TGAGGAAAGCCACTGCCAGGAAAGACTGAGCCCCCTCCCCTGCCCTCTCCCGGAAATATA
GAACAGCTTGACAAAAAAAAAAAAAAGAACAGTAATAAAAATCTGGTATCAGAAATGAAC
TTACAGGAAGAAATACAGTCAAGTAGCCCAAATGCCAATGCTCTCTGATCACCATGCTCT
GCCTGTGCAGGCAATGCCGTGTGGGAGGCCAAGTCATAGTCCTGTGCTTTACCCTTGGGG
CAGCATCTGTTGGCTTTACCTGCCCAGCATCCATCCCCTCCCTCTAGTAGTAGCACCTCA
ATTTTCCTCTGGGGCACCTCCCCAGCTCTGCTTTTTATACTTGTGGTTTGGGGGAAAGGT
AGCCTGACTAATCAACATGCACACACACATTTGCACATGCACACATGCACACGGGATTGT
TTGGCAAATCCACATTCCAGGCCTGCGTTAGTCAACATATTCTGCTCCCCTGGGCCAAGA
AGTATGGGGATCAAGCCTGGCCAGTAGCCAGCCAGGAGTTCAGAATTCACAGAAGGGAGA
AGTGTTTTTTCCCCTGGCATTGCTAACCTGGGGAACATATACCTGGGACTTCCAGCCTCC
TCCTTTTGCCACCATGTAGGGAAACTGGGGCCAACACAGAGAGGAACAAACAGAGTCAGA
CCAAATCTCCATGACAGTGAGTTCCTGGATCTAGCTATGTCTAAAGCTGAACCTGCCCGT
GGACTTTGCAGTTACATGAGCCAACTGGCTCTCTTTTTTAGCTTAAGCCAGCTGGAGTTG

FIG. 9M

GGAGTGTGGACTGGATGATCCTAAAAACTGCCTTTCAGTGGTGATGGCTGGGTCCCTCAA
CATTTAGAGATGTAGCAGCATCTCAAGACTGATTATAGGAGTACGAGGCCAGGGCACCCT
CATCACAGCACAGAGCTGGTTTCCCTGGCATCTAAGCCTCTTCTCAGGATCCCATAACTT
ATCCATGAGGCTGGCTGATGCAGCCTTTGCTCACCAACAGATGTGTTGAATTCTGCTCTT
AGCCCTCTAAAGCCATCAGCCAGGCGCCCTGGCACCAGGCATCACTTAATGACAACATTC
TCACAAAAGAGACATGGTGGAAATGACTCTTAGATCTAACTTTGGCATCAGTTCTCTTTT
TTTTTTTTTTTTTGAGATGGAGTCTCACTGTCACCCAGCCTGGAGTGCAATGGTGCAATC
TCGGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCGATTCTCCTGCCTCAGCCTCCCAA
GTAGCTGAGATTACAGGCATGCACCACCATACCTGGATAATTTTTGTATTTTTAGTAGAG
ACAGGGTTTCACCATGTTGTCCAGGCTGGTCTCGAACTCCTGACCTCAAATGATCCACCT
GCCTCAGCCTCCCAAAGTACTAGGATTACAGGTGTGAGCCACCGTGCCTGGCTCAGCATC
AGTTATTATAGGGGACTACTGGCCCTTCTCTTCCAACTCCTCCTCTTCCCAGGGGCGGGA
ATAACGGTATGCTGGAAGCAGCTTCAACCCACCCCTAAAAGCTGGCTGAACAACAAGAGA
GAAGGAACAGGCCCTGAATAGCCTCGTGAAGCAGACCTCCCAACACACACACATGCCCTC
ATCCACCCCTTGGCTCTGGACTGCAGAGAGAGAGAGAGAGGAATAACCAATCTCAAGTAA
GCACCTGCATTTTGGGGGTCCTTTTATCAAAGCAACTTCACCTCTACATTAACAACACAC
TACCCAAGGCTCTGTCTTTTCACTGGTAAAATGGGACCACGTAATACATCAGAGGATGGT
GCTGAGAATTCTATTAGATGCCAGGCCCAAAATGTGGCACAAAGGAGACCTTTTACATGC
AAGCTGTTGTTAGAATCATCACATCCTATCTGTATCTTTCCCCTGGCTCACAGCTTAGAA
AACATTAGGTGCAGGCCAGGCACTGTGGCTCACACCTATAATCCCAGCACTTCGGGAGGC
CAAGGTGGGTGGATCAACTGAGGTCAGGAGTTCAAGACCAGCCTGACCAACCTGGTGAAA
CCCCGTCTCTACTAAACAAAAAATTAGCCAGGCGTGGTGGTGGACACCTGTAATCCCAGC
TACTCGGGAGGCTGAGGCAGGAGAATCACTTGAACCGGGAGGCAGAGGTTGCAGTGAGCC
GAGATCATGCCACTTCACTCCAGCCTGGGCAGCAAGAGCAAAACTCTGCCTTAAAAAAAA
AAAAAAAAAAAGAAAAAAAAGAAAATATTAGGAGTTTGGTAAATATTAAGCTCAGCTGAA
CGGGGGAAAATACAGTATCCCAAGGGGATTAGAGAACAGAGAACCTGGCCCCTGCAGGCA
GAGCGGGATAGCGAGTGCACCCCTGGGTGTTCCCAGCTGGAGACAGAGGGAGCAAAGGTG
GAGAATGGGACCTGGTATGCTCTGGGAGTGGATGCAAGGAGCAAGGTTTGACCCAGGCAG
AAGTGGGAGTCTGCAGAGGGGCCTGGACCTGGGGCCTCTCTAGTTTTGGGGACCCAGGAT
GTGTGAGAGGAGGAGAAGGGCAGCTCCCAGAGAAAGTCCAGCTTCCAACACCTTTACAAT
GACAAGTAATGTCTCTGTAGAGCAGAGAAACTAAGCTCAGGCCAGGGCTAGTGGGCTGCT
GAACAGCTGACACCACAAGCCCAAGGGCCTCAGGAGCCTGGTGAGAACACGTGAGCCTAA
GTAACTGGGGGCACCTGCTGCCGCCAGGAGCTCGCTAAGGGCTTTATAGAAATATCTCGA
CTTTCACAACCACCCTAGGAGACAGGTATTATTCTTATTATTATTTTGAGATGAAATTTC
GCTCTGTCGACAGGCTGGAGTGCAGTGGCACGATCTCTGCTCACTGCAACCTCCGCCTCC
CAGGTTCAAGCGATTCTCCTGCCTCAGCCTACCCAGTAGCTGGGATTACAGGCATCTGCT
ACCACGTCCAGTAATTTTTGTTTTTTTTAGTAGAGACAGGGCTTCACCTTGTTGGCCAGG
CTGGTCTTGAACTCCTGACCTCAGGTGATCTGCCCGCCTTGGCCTCCCAAAGTACTGGGA
TTGCAGGCATGAGCCACTGCACCCAGCCATTTGTATATATTTAATGTTAAGTGATGCTTT
CCAAAGCCCACAGGGGCTGTGCTCCCTCTTCCCCTTGCCCTCCCTGAGGCCCCATCACCC
ACCTCTTGAACCGGGCCCTCCGCAAGTTTGCCATCTTGAGGCTGGCAGAGACGGTCAGGG
CTGCAGACTCGGGAAAAGGCAGGTTTCTGAGAGGTTAGGGACCCCGGCAGGTGGGCAGCA
GGCAGTGGGGCAGGAGCTCGCTCACTCCCAGCTCCTGCCTCCAGCCCCCAACAGGTGTGC
ACCGTTGGCCCAGCCCCGCTTCCATCCACCTGGGGACCTTATACCCTCGCTGCTGCAGCC
ACACCTGGATGCACCTGCTCCCGGGAAAGCTCTGAGCCTAGTGCTCCTTGTGTGAGGTTT
AACAGGACAGGCTCAGTGGCCACTCTGAGAGCCCGCCCACCCGGGGAAGGTGATGCACAT

FIG. 9N

GCAGCCTCCAGATGGCCAAATCAGGCAGCATGTCTGGCCCAGGTGTCACAGAAGCCGGGG
CAGGAAGAGCCTCTGGGGCCGGATGTTTCACCAGGTCTGGGAGGACTCAGTAAATATTAA
ACAGCCCCTGGCATGCCAGACAAGCTTCCAGACGGGCACGTGCAACCTGCCGGCCCCAGC
CCTCACGTGAGGTTGCTACAGCAGTCCTTCTGCCTGGTGTGGTTGGCAGAGGCCTTGGTA
CTCGGCTGTTGCAAGTGCAGGCTCTGGAGGCAGACAGGGCCGGGCTCAAGTCCTGCACCT
GCCCCCAGCCTCCAGGCGGGACAATTATAGGACTGACTGCACAGGCTTCAGGTGAAGACT
CCATGCAACAAGGACGTGAGCCAACCATTTACCCAGGTGCCTGGCGGTGCTGGCCACTGG
GTGATGATGACAGGCATGCACTCGGCACTTGCCAAGCTCAAATTCTGCTCTCAGTGCTTT
TGTTTTTTTTTTTTTTAATTGAGACAAGGTCTTGCTCTGTCTCCCAGGCTGGAATGCAGT
AGCGTGATCTCAGCTCACTGTAGCCTCCGCCTCCTGGGCTCAAGTGATCCTCCCACCTCA
GCCTCCTGAGTAGCTGGGACCACAGGAGTGCACAATTACACTCGGCTAATTTTTTGTAGT
TTTGGTGGAGACAGGGTTTCACCATGTTGCCCAGGCTGGTCTTGAATTCCTGAGCTCAAG
TGATCCGCCTGCCTTGGCCTCCCAAAGTGCTGGGATTGCAGGCGTGAGCCACCACGCCCG
CCTGGCCTGCTCTTGGTGCTTTACATGTATGGACTCATTTCTCCTGACACAGTCTTTGAG
GTCAGGCCCCCTGGTACCGTCCAGGAAACTGAACTTGCATCACTCGCCTCTGGCTCCAGA
GTCTGTGTGCTTGACAGCTTCACAGGCAGGGCTGGATATGAGCCGCCTCTTTCTCCAGCC
TCCTCTCCTTGAAACTTAATGGCTGCTATTTCGTTTTCACACCCACACTTCTTAGCCATC
CCAACAGAGGAATTCCCAAGCTGAGGAGGATGTCCCAGTGGCTCCTGGCTCGGGGAGTAC
CTGCCTGACTGCCTGGGGGAGGGAGACCTGGCTGAGGAGGGGCAGGAAAGGGGGAAGGGC
AACCATGCCTGTCAACTGGGGCAGAGTAGGACAGTATCGGGGCCTGGCCCTCTCCTCCTT
CATCCTCACTGTTTATCCTCTCATCTCTCTATCCTCCCACCCCCCAGGTCCAGCTCTTGG
GAAATGGCCTTATTATGTCAATCATTCACACCTTAGTATAAAATTTCCCCACCAGGTTAC
TTCCCCAAGTGAGCCATCTGACTGTGGAGTAAAAATCCCTGTCTATAGTGAAAGGGGTTT
CAAGGTGCCAGAGTAGGGGTCAAGGTGGTGATGGGAAGAGAAGGGGCATCAGCCCACCCT
CTCCATGCAGAGCCCTGCCCTCCTGCCAGGTTGTTTGCCTTGACAGTGCGGCTGCGCTTC
GGCCTGCTCGGGTTACCAGGGAACAAGGCCAGAAGGTGGGGCCTGAAACCCAATCAGGCT
CCAGCCCTGGCTCCAAGGGTTCAGACCCCAGGGAGCTCGACGGAGACAGGAAGTTAAAAA
TAGATGCACCGCTTCCCCGTCGGTGTGGGCAGCTTCTTCCTTGCCCTCACACAAGGGGGC
GGCAGAGGCCAAGGCCAGGTGGGGGCTGCCCAGGGACCTCCGAACCAGCCCAGGCCCAGC
ATCCTCTGGCATCCTTGACAATCAGATGGGGGACAGGAGGGGTCTGAGATATTAGAGCCA
TCAGGGCTGTCTTTCCTAGACTAGGACTTGGACACTGTGGGACCCTTGCTGACGGCCAGC
GAGCCCTGGTGTCAAGGGGATGGATCACCTCTGTCCTCCTTCCTCCCAAAGAGCTGATCC
CAGGAATCCAGGAAGGGGCCAACGAGAGGCAGAGGCCTACCGTGGGGGCACTCTCTGGGC
AGAGCTCCCCTCTAGGGCCTGAGGGGACATGTCCCATGGATGCAGGACATTCAGAGGCCC
CCACAGGCCTGGCAGGAGGAGAGCTGCAGGCAGGGCCAGTTGTGAAATTTGTGGGGTCTA
GTGCGAAATAAAAATGCAAGGCTCTTTATTCAAAATTTATCAAGAATTTTGGGCCAGGCG
CGGTGGCTCACGTCTGTAATCCCAGCAGTTTGGGAGGCCGAGGTGGGTGGATCACCTGAA
GTCAGGAGTTCCAGACCAGCCTGGCCAACATGGTGAAACCCTGTCTCTACTAAAAATTAG
CTGGGCATGGTGGCACATGCCTGTGATCCCAGCTACTCGGGAGGCTGAGGCAGGAGAATC
ACTTGAACCCGGCAAGTGGAGGTTATGGTGAGCTGAGATTGTGCCATTGCACTCCAGCCT
GGGCAACAAGAGCAAAAGTCCGTCTCAAGAAAAAAAAAAAAAAAAATAGCCAGTGTGGTG
GCCCATGCCTGTAGTCCCAGCTACTCAGGAGGCTGAGGCAGAAGAATTGCTTGAACCTGG
AAGGTGGAGCTTGCAGTGAGCCTAAATTGCACCACTGCACACCTGGGTGACAGAGCAAGA
CTCTGTCTCAAAACACACACAAAAAAATTGTATTAAGAATTTCTATTTGGTGCCAGGCAC
AGTGGCTCACACCTGTAATCCCAGCATTCTGGGAGGCCGAGGCAGGTGGATCACCTGAGG
TCAGGAGTTCGAGACCAGCCTGACCAATATGGTGAAACCCTGTCTCTACTAAAAATACAA

FIG. 9O

AAAAAAAAAAAAATTAACTGGCATGGTGAGGCACACCTGTAATCCCAGCTACTCAGGAGG
CTGAGACAGGAGAATTGCTTGAACTCAGGAGGCGGAGGTTGCAGTGAGCCGAGAATATGC
CACTGCACTCCAGCCTGGGCAACAGAGCGAGACTCTGTCTCAAAAGAAAAAAAAAAATAC
AAAAATTAGCCGGGCGTGGTGGCACGCTCCTGTAATCCCAGCTACTCAGGAGGCTGAGGC
AGGAGAATCACTTGAACCTGGGAGGCGGAGGTTGCAGTGAGCCAAGATCGCGCCATTGCA
CTCCAGCCCGGGCGAGAGAGAGAAACTGTCTCAAAAAAAAAAAAATTTTGGGAGGCTGGG
GTGGGAGGATCATTTGAACCAAGGAGGTCAATGCTGCAGTGAATCGAGATCGCACCACTG
CACTACAACCTGGGCGACAGAATGACACCCACAAAAATTTCTAGAGCACAACAGCAGAGC
GTTCAATCAAAGTACAGAGCACAGGCTACACGCTCATGAAGCCGCCCTTGGGTACAGGGT
CTGCAGACCCTACCCCTCCTTCCAGACCACACAAGGGTCCCTACAGTGCTTCAGTGGACC
AGCCCCACTCCAGGGCACACAGCTGGGAGAGGGTCACCTGGGCCGGATGGCCCCCTGGCC
AGGTAACCCGCACAGCTGACCTTCCCAGCCTTGATTACAGACCCCTGCAAGAAAGTGGGG
GACTCTGATAAAGCCCAGGAAGAGGCAGCTCAGAAATGGTTAAGTTGAGAAACAGCATCA
TTTCCTGGCCGGTTTATACTTAACCCCCTCTTTGCAGCACTTATGGAGTGCCTGCTGTGT
GCCTTTCTCAGGCAGCACCCACTCTTTCTGTTCTCTGAGGCTTGGAGTTGGGGCACTGAG
CACTAACTGCTCTGGAGCCTGGGTCAAATTCTTCTCGTCTTGGGGCATCAACTTAAACCC
TTCCCAGGCTCCCCTCCACTGAGAATGTGTCTCAAGGCCTCACTGCAGCCCATGAGGCTC
CGCAGGGTCCTCCTCCCTCCCTGACTGCTGTCACGCATGCCAGCCGCACACCTGCTTTCT
GTCCCTTAAAGCTCATTCCCACCCAGGACATCTGCACTCGCAGCTGCCTCCCGCCGCCGA
AGGCTTCCCGGCCCACCCCCATCTGCACACGCGCAGATCCACTTCTTCTGTCCCTTCCTG
CCTCCACTCCCCATGCCCCTGTCTCGTCAGGCTCTCCCAGGAGACCATGGGTGCCCTCCC
CCACCCCCAGTTCAGTTCCCTCACAGCACTGCCACCAGCTGGATCTGTCTCAATTATCAC
TGGCTTATTGTTTGCTGCCATCAGCTCCCAGGACAGCAGGGCCTGGGTCTGTCCCCAGAG
CCCAGGACAGGGCCAGAGTAGGTGCTCCGTGAATATCTGCTGCGTGAACAGGGATTCCTA
AGGTGCTTCCAGCTGGGACACTCCAGGATCTTAACCCTGGGGTCCCGGCACCACCACCCA
TGGGAAGGGAGCCCCCAGGGAAAGGTTAGTGAGCTGGGAGGGCTGACCTCAGGGGGGTGG
AGGTGGGGTCCTATCCCCGCAGCAAATGCCCCTGGGAAGGAGCTCAGGGAGCACACACAG
GAGGGACCTGGCCTGGTCTGGAGCTCAGGGGTCCTCCCCCAGGACCTAGCAGGAAGCCAA
TGCCTGCAGGTGATTCAACGGGAACTGGAGGTGGAGGAGTGGGGTAGGAGCTCCAGCGGG
AGGACACACATGTGCTGAGGCCCTGAGGCCGGGAGGGGAGGGAGGTAGGCTGCTGGGGCC
AGGTCCCAGGGGCCTCTAGCCAGGAGGGCGCTGGGTTTATTCTAAGTAGGTTGGGAATCT
TTGCAGGGTTTCAAGTCGGGGAAGAGCATGGTGGGATTTTATTGTTGACTGACTCACTGA
CCTACTGAGTTCTGCACTCTGCTCTGGCTGGGGACCCCGACCTGTCCACCCCGTTGGCTC
AGACAGACAGAGGTTTGGCCCCTTCAGGATGTCGATAAACTGCCCCAGTCCCCAGGCCTG
CCTGCTCGTAAATGGTTCCCTGGGGGCTTGCACAGTGCCTGGCATGAGGCCCTGGAGCGA
GGGGGCAGCAGGCCTGAGCTCATCGGGCTGTGGCCTCCAGAAGCAGAAACAACCTTCCTC
CCAGGGACTTAGTACCTAAAGCCGGAGGAGACACAGGACGGGGCAGCAGGCAGGGCCTGG
CCCGGCCAGCACCCCCAGGGAACTCAGCCACAGGGTCAATGCTGCCCCCCAGGCCCATCT
GTGCCAAGCCTGCTCCCTCATCCGGTAACCCCCCACAGCACCAGCTGCACCGGCTGCTGG
CCCTGCCTCCCTCGTGGTTCCTTCCCGACAGCCCCGTGAGCAGGGTGCACCCACAATTCC
CATTGTTCAGATGAAGACAAGGCTGAAGAGGTGAGGTCACTTGCCCCAGGTCACAGAGCC
AGAAGAGGTGGCCCCATTGCCTAGTCTTCCAGACAGGAAGAACATTCCTTCCCAACCCCG
CCCGTGGAAGACCCAACCCTGGGCCAGTTTTGCTGTGTGACCTTGGGCCAGTGGCTCCAC
CTATCTGAGCCTCTGGTTTTTTGGTTTTTCTTTTTTGGTGTTTTTGTGGGTTTTTTTGAG
ATGGCATCTTGCTCTGTCACCCAGGCTGGAGTGCAGTGGTGTGATCTCGGTACACTGCAA
CCTCCACCTCCTGGGTTCAAATAATCCTCCCACCTCAGCTTTCCAAGTAGCTGGGATTAC

FIG. 9P

AGGCATGTGCCACCACATCCAACTAATTTTTGCATTTTTAGTAGAGACAGGGCTTCACCG
TGTTGGCCAGGGTGGTCTCCAACTTCTGACCTCAAGTGATCCGCCCGCCTTGGACTCCCA
AAGTGCTAGGATTACAGGCATGAGCCACCGTGCCCAGCCCAATTTTCTGGTTTTTCAAAA
AAATTTTTGTAGAGATTGGGTTGTGCTATGTTGCCCAGGCTGGTCTTGAGTTCCTGGGCT
CAAGTGATCCTCCTGCCTCGGCCTCCCAAAGTGCTGGGATTATAGGCGTGAGTCACTGTG
CCCAGCCAGAGCCTCAGATTTTTTATCTGCCAAGTGGACCTGCTAAGCTCAGGCAGATCA
ACTTCTGGAGACTTTGAAATGATAACTGTTCAGGTTTCAAGGAAATGATAGGTTTATCCC
AACACTAAGAAACTCTGTCTCTCTGTCTCTCTCTCAATCTCAATCTCTCTCTCTCTCTCT
CTCTCTCTCTCTGTCTCTCTCGGGCTGCAAGCCGGCCTGAGAGTGGGCCTTCGGGTCTCT
GGCAGCAGGAGGAGGATGACCCTGCCCTTCCCCAGCCCATTAACAAGCCCCACCCCTGCA
CCCCGAAACAGGACACGGGGGGAACTTACGCGATCCTCCGGCTCTGTGCACTGCTGAAGC
CTGCGAAGGAGGCGCTCCGGCCCACGACCCCCACGGCCCCTGTGTCCCCAGGGGACAGGA
ACCGCAACCTCACCGACATGGTGGTCACCTGCAAGGAGAGGACAGGAGAGTCAGCCTGGC
ATCACCATCCAGCGAGTGCCGTCCGCAGGCCAGCCACCTTCCACCAACACCTACAGACCT
CACAATGGCCCCAGAGTGTTGTGGGGGCTGGTACTGTGCCCAGCTCACAGGTCAGCAAGC
TGAGGTCCCATGAGGTTAGGGGACCTGATGGGGGACAGTGATGGGAATGGAATTCGAACC
CAGGTGTCTGTACTCTGCACTCTGTGCTCAGGTCCTTAGTGCCGGGCAATGCTGCCTCCC
AGAGCAAGGGGACAGCACCTCCTGAACACAGCCCTCTCACCCCCCGAGCTTCTCCTCTCC
CCTCCTCCAGCCCTCCCTGAGCACCTAACACAGGTGAACTCTGCAAGGCAGGCCAAGTCC
CCCCATCCTCAAGGGCTCCAGCCCAGCAGGGAGGCCCACCTACTGCCGAACAGTTACGAT
ACAGAGTCCATGCTGGAGTTATGGGGGTCCCAGGGGGAATCTGACCCAGCCATGAAGAGG
CGCCCAAGAGCTGAGTAGGAAGGCTGACGTGGGGTGAAGGGGAAGGGTGTCTAAGGCCGA
GGGAACAGCCTGGGCAAAGGCCAGGATGCATGAGGGGACTTGGTGTCATCCAGAAACAGC
AAGAAGCTCAGTGGGCTAAAGACGAGGTCAGAGAGGCCGGCAGGGCTCAGGTCCCAAGAG
GCATTGGTAGCCCCAAGCAGGGGCTTGGCCTTACAATGGGGCAAGGGTGACTGGGAGCCA
TGGGAGGGCTTTCAGCAGGGGGTGGAAAAGTCCAATTCACATGAAGCCAGACTGCTGGTG
TCAAGGGCTGCTTCCACCCCGATCCATTGCCCAGTCTCCGACCCGCCCTGCAATGGGGCC
AACCCCGAGCCCTGGCTGTCTTCTCTTTTTTCCAAACCATCTCTAGATTGAGAAAATGCC
ACCCTATCCCTTGGGAATATAGGTCAGCATCTTCCAGCAAGGGCAGCTGGAAAGTTCTGC
TTCATATCTAACCTAAATCTCTGCTGCTACAGTTTCATACTTTGCTCCTTTGCCAGGGTG
GTGTCAATCCAAGGATTCCAGGGACCCCATTGCCCAGACAAAACCTACGAAAAAGCTCCA
GTCCACCTCATCTTCCTGCACGATGAGACCCCCATGTTCCAACATCTCTTTCCCCCAGGG
GCCAAGTCCACCCCACTACACCTCTGCTCACTTGGGGGTCTCTGCCTGGAAAAACTTCCT
GTATCGAGCCACATCTGCCCAGCATCTACTACTGCACCTCCTGGCAGATCTGTGCAGCCT
CCACAAGCCTCCTCCTCCCATATATCCCCCACCCCACAGCCCCACATGTGCCGTACATAG
GAAAGCTTGGCAACAAAGAAGGTGGACCTGGGCTCAAATCCCAACTGTGCCACTCAGGCT
CTGGGCCTCAGTGATCACAAGAGTAAAAGGGGAATTCAGAAAGAACCTCCCACGGAGACT
GCTGGAAGGACCAAGGAAAGCATGTCCCGAGAGCCCACAGTGTGCAAGAGACATGTCGGA
AGAGCTGGCTGTCTCTGTGCAATTGGCTAAGACCCCAGCTCTGCAGGTGAGCCAGGTGAC
CCAGATAAGCCAGGTGACCCAGGGAGAGCCAAGTGAGAAGTGAGCGGCTTCTAGCCCGGA
TGGAGGAAGGTGGCAAGCATTTGCTGACCACTCGCTGTGTGGCAAGCCTGGTGCCCCATG
AGTGGCTACGAATCCATGAACAGCTATGAACCCATGCCCAGCAGTGCTGTGTACAGATGG
GGAAGTTGAGGCATCATTCATCAAGTGCTCATTACTAAGCTGGCCCTGCACTAAATGCTT
TATGTAAATTATGAAATCCATACAACCCTCTTAAGAGCAGGAGCTTTTGATGATCTAATT
CCATAGATGAGGAAACTGAGGCTCAGAGAGGTGATGAGACTAGCCCAGGAGCCCCAGCAG
GGCACCTGAGCACTGGGTTTAGAACCCGAGGATGCCCGATGTCAGAGCTTGTCTTACCTG

FIG. 9Q

CGGTCAGGAGAGCCTTGCACTGGGGCCTTGCCCCTGCCCCCATAAAGAGGTCCCCTACAG
TCCCCTCCTGTGCTGTGCTGAGCCAGCTTGTACCAGCTCCCAACAGTCAACTGGGCCAGG
CACAGTGGCTCACACCTGTAATCCTAGCACTTTGGGAGGCCGAAGCAGGCAGATTGCCTG
AGCTCAGGAGTTCAAGACCAGCCTGGGCTACATGGTGAAGCCCCGTCTACTAAAATACAA
AAAATTAGCCAGGCTTGGTGGCAGGCGCCTGTAATCCCAGCTACTCGGGAGGCTGAGGCA
GGAGAATCACTTGAACCTGGGAGGTGGAGGTTGCAGTGAGCTGAGATCATGCCACTGCAC
TCCAGCCTGGGCAACAGAGCAAGACTCTGACTAAAAAAAACAAAAAACAAAAAACAAAAA
ATAGTCAATTGTTAAATGTTCAGGAATTTTGTGAGCCTGTTGACATCACGTTGGTGGTTT
GAAATCAGCCACAGTAAACGTATTTACACCACAGAAAGCGGCAAGTTCTACAAGTTAGGG
TTTCTGTCTGCTGGTTGTTAAACACGTATGAGCTCCTCACTGCTGTTACCCCTATCAGCA
CCTATGCAGGGCCTGAGAAGCTGCTCAAACTGCTTGATCCCCCCAGCCAAGCCAGGCAAG
AGAATAAGGACGGAGTAGGGAGGGATTCCCAAAGGTGAGTAGTTGAGACGTACTCCGGAG
CCAGCCTGGGCACTGGAGCCGGAAGGGGCTTCCCCGGCCCCTCCCTCTGCACCTTCCCAT
CAGAAGCCTTCTGGGCCGTTCCTGGAGCTTCACCCCAGTCACTCCACTTCAAGGTCAGAG
AGAAGGACAATTGCTAAGCAGTTCCTCCCGATGCAAAGCTCAAAACAAGCCCCAGGTCCT
CCTGCTCAGTGTGAGAGAGAGGACGACGAAGGAGGGAAACTAAGGCTCGGAGCAGACCTG
CAGAACCTGACAGCGGATTCATCACTCATAGCACTGTGAGGTTCAATGGCCCCATTTTTC
ATATGAGGAAAGAAAGGCTCTGAGAGGTGAGAGGCGACTCAGGGACACACATATTTCTTT
CTTTATTTCCTTTTCCTTCTTTCTTTCTTTTCTTTTTTTTTTTTTTTTTTTTTAGACAGGG
TCTGACTCTATTGCCCAGGCTGGCGTGCAGTGACACGATCTCAGCTCACTGCAACCTCCA
CCTGCTGGGCTCAAGCCATCCTCCCACATCAGCCTTTCACGTGGCTGGGACTACAGGCAC
ACACCACCATTCCCAGCTAATTTTTGTATTCATTGTAGAGATAGGGTTTCGCCATGTTGT
CCAGGCTGTTCTCGAACTCCTGAGCTCAAGCGATCCACCCACCTCAGCTTCCCAAAGTGC
TAGGATTATAGCCGTGAGCCACCGCGCCTGACCAGGACACTCATTTTTCAAACTGAAGTC
TGGCTCTTCCTTCTTCCACGTGCCATGGCCACATGGATTGGCTTCCTGGCTAAACCCTCC
TCATCTTTCAGCCCAGATGTCCCCTCCCCCAGGAAGCCTTCCTGGACACCTCCCCACTCC
TAGCTGTGTCTGGTGTTTCCTCTGGATGCCCCTGACCTCCTCTGTTATAGTGGACTGTGA
ATGGTGACTTGTCTATCTCTCCATCCTAGACAGGGAGCTCCCTGCAGGCAGGGACCAGGT
GCATGGAAGATTCATAACACATCTTTATTGAACCAGAAAACAATGAAGGAAAGGTTGACG
CTGCTTCCCCTACTTCACCAGGCTGTGCAGCCCAAGAGGAAGGTGCTGGAATAATAACAG
TAATACTAATACTAATAACCACTATGTGCTAGACTCTAAGGCAAAGATGGACAAATGTTT
TCTGTAAAAAGCCAGATAGAAAGGCTGAGCGCAGTGGCTCACACCTGTAATCCCAGTACT
TTGGGAGGCCAAGGTGGGTGGATCACCTGAGGTCAAGAATTCAAGATCAGCCTGGACAAC
ATGGTGAAACCCTGTCTCTACTAAAAACACAAAAATTAGCCGGGCGTGGTGGCGCATGCC
TGTAGTCCCAGCTACTCTGGAGGCTGAGGCAGGAGAATCACCTGAATCCGGGAGGCAGAG
GTTGCAGTGAGCCGAGATCAAGCCACTAAACTCCAGCCTGGACAACAGAGCTAGACTCCA
TCTCAAAAACAAACAAACAAACAAAAAGCCAGATAGTAGATATTTTTGGTTTTTCAGGCC
ATACAGTTTTTGTCACAACTACTCAGTTCTAGCATTTTAGAGCAAAACCAGCTGCAGACA
TTATGTAAAGGAATTATGCCATGGCTGTGTTTCAGTAAAACTTTATTTACAAAAGCTGCA
GCAGCTGTTGAGGATGATGGGTGGCCCTGCCTCTGACCCTTGGGTAGCCAGCACTGCCTG
CTACCTGCTCTGAGGACTTAAAATTCTCATTTCATTCTCCCAACACCATATGAGACAAGT
ACTATTACTATCCCCATTTTGCAGATAAGGAAACCGAGGCTCATGCCAGGCGTGGCGACT
CACGCCTATAATTCCAGCACTTTGAGAGGCTGAGATGGGCGGATCACTTGAGCCCAGGAG
TTCGAGACCAGCCTGGGTCTCATAGTGAGACCCGGTCCCCACAAAAAATACAAAAATTAC
CCAGATGTGGTGGCGTGCACCTGTAGTCGAGCTACTGCGGCAGGCTGAGGTGGGAGGATC
ATTAGAGACCTCCCAGCAAGTCGAGGCTGCAGTGAGCTGAGACTGCACCACTCCAGCCTG

FIG. 9R

GCTAACACAGTGAGACCCTGTCTCAAAAGAAGGAAAGGAAGGAAAGAAGGAAAGGAAAAA
GGAAAGGAAGAAAAGAAGGAAACCGAGGCTCAGAGAGGACGGAAATGAGTCCTCCGAGGT
CACACAGGTAGGAAATGCCAGAGCTGAAACTGGACCGGGGCGCGCTGGACTCCAAAGCCT
GGCTTCGGGACTCCGCTGTGCTTGCTCCCGCAGCTCTGCTGAGGACACGCCCCCCTCCCA
GGAGCCAGACCTCCTCCAGCGGGGAAGAGGCCCCAGAATGGAAATAGGATTGGGAGGGGG
ACCTGCCAAGCTAGAAAGATAGCCCTGGGTGGTGGCCGAGAAAAATCAAGCCCAACCTCT
TTTGGCTTCAGGGTGTTGCAGCCCCAGCCCCTGTGGGCCCCCTTGGGGCCTGCGGACCGC
GACAGTTCCCAGGCAGCTCAGCTGCGCCCCCTCCCGGCTGGGCCTGGTGGGGCTGATCCA
TGACGTTGACTTGGAGTCCAGCCAAGCAGTGTTTCTTGTGGTAAAAGAAACAGACCTCCC
CCTGGATGATTGGGGATGGGATGGCCAGGCTGAGACCCACAATCTCAGGAGCCTTCAGCG
GACAGCTCCTGACAAGTCCAGTTTGTCACCTGCGACCAAGGGTGACATTCCTGATGTTTA
AGCAATGGCACAGCAGCAAATGGAGGCTGGGTGCTGGAGCAGGGTCTTGAAGACCCTGTC
CCCTCCCACCATGTGTCACCACCCCTGCTGGGGCTGGCATTAACCCTTTAGCTACTGGAT
TGTGGGCAGGTCTAGGAGGTCCCTGGGGAGGCATCAGGAAGAGAGGAGGAATGCTCGGGT
GGCTTAGGGCAGCCCTGGGTAACCAGCACTCTGCAGGCATGAGAGACAGTGCAGAGACCC
TGCTGGGCCCCAGGGCAGAGAAGGGAGGCACAGAGTCATGCAGTTCCCAAACCTTTGGTG
GCAGACAGGACAGCCTCTTCTACTCCGTGTCCCTCGCTGCCTCTCTCTGGCCTGGCACTT
AGAACTGATGCCGTTCAGACCCGGCTGGTGTGTGCAGGGAGAGGAAGCCAGATGCTCCCA
GACACTGGGGACTGTCCTGGGCCTCCGTCCCCAAGGTGTGGCTGGAGGAAGCAGAGTCTA
CTCCCGCTAAGTCTGTCCGCTCACTGCTGGCCAAAGCTGCCCTGCGTCTCCTCCCCACCG
CCAGCCAGAGGGAACCTGCAATTTCACCTCATTTAGAGGTAAAACATCTAAATTTAACGT
TATGGGCTTTTGGGGCTGGGTGGCTTTTATGCCTGAGTCCCTCACTTAGGGCTCCTTTTT
ATCCACTCAAATGCCAGCTAGGGCTTAGTTTGTTTATAGGAGTTTCCAAAATAGCTCCTT
TGGTTTCGCATGAAAGGAAATGGCAAAATAGCCCAGGAAGAGGAATGTGAGTTTACACAG
AAGACAGACAGGCGCCCGAGGAGGCTTCTCTGGGAACCAGTTCGCCTGTACCAGAGGGGG
CCCGAGAAAGTGTGGAGTCCAACAGTCCAACTCGCTCATTTTACCGATGTCAAGACTAAG
CCCAGGATGGTCACACAACTTGCCTGGACCACCCAAAGGCGACTGGAAGAGCCAGAAGAA
CCCAAACTACTCCTCCCTGCCAAAGCACAGGCCTCAGCTGGAGCCCCCCTCCAGCCTTTG
CCCTGGCTGTGTCCTCTGCCTGGCACACGCCTCCCTTCCCCCAGGTCTTCCCTATCACTC
TCTCCCAGCTTGCAGGCCTCACAACCAAGGCCACCTCCTCAGAGAGGTCCTCCCTGACCC
CCTTGGCTAACGTGGACTTGCCCCTCACCCGTATCCTTCAAATAACTCATGGTTCTGATT
GTCTTATTCATCAGTTAATCAAGTATGCTTCTCAAGAATCTTCGCTCCAGGGAGCAGGGG
GTTTTTCTGTCTTTTTAAAAAAAAGTTTTTGGGGCCAGGCACACTCCTATAATTATGGGC
TCACGCCTGTAATCCCAGCACTTTGGGAGGCTGAGTCTGGTGGATCACCTGAGGTCAGGA
GTTCAAGATCAGCCTGGCCAACATGGTGAAACCCCATCTGTACTAAAAATACAAAAATTA
GCCAGGCGTAGTGGCGGGCTCCTGTAATCCCAGCTACTCAGGAGGCTGAAGCGGGAGAAT
TGCTTGAACCCAGGAAGCGGAGGTTGCAGTTAGCTGAGATCACACCGTTGCACTCCAGCC
TGGGTGATAAAGCAAGACTTCGTCTCAAAAAAAAATTTTTTTAAATAAATAAATACATAA
ATTATTATTATTATTATTTTTATAGAGATGGGTCTTGTTATGTCACCCAGGCTGGTCTCA
AACTCCTGGCCTCAAGCGATCCACATGGTGTGAGCCACCATGCCCAGCCTGCTGGTTTTT
AAAGAGCATATTTAAATGAAAAGAGACAAATTTAAAGGACCCTTGGTTTAAATAGAGCAG
GTTGGAACCAGCTTCAGGGCAGCCCATGGTCCTGGCTCTGCCATCCTCCAGAACCACCTG
GAGCCAGGAGGGGACACCCAAGGTGTCTCTGCAGAGGACAGCGGCCTGACGGATAGACAC
ACAATGAGTGCCCTGATTTGTGATTTAAGAGAAGAACAAGCAGCTCCTTGGGAAGCCCCA
GTGTCCCCTGCGCTCCACTGTCCCAGGACTGCAGGCAAAGGGACGCCTCCTGACCGCAGA
ATAGTCAACAGCAGGCACGGGAGTGAGGACCGGGATCCAGGGAGGCCGCTTCCCTCTGTC

FIG. 9S

TATCAGTCTGCAGCCCTGGGTCCCAGCTCACTCCATTGGGGTTTTCCCAGATAAAGATGA
CTCATGAATTTCTTTGAATTATCCAGAGGGCATTTTAATTCAAATGGCCCCATCACTGCC
TCGTCACCACTCCCACCAGCCATGCCAGGGGTCAGCCAGGGGTCACCTTGAAGACAAAGC
CTCTCTTTGGGAAAGAAGCCTTTGAGGCCACTGTGGGGTGGCTGTGTGTCGGGGCGCCAG
GTGGGAAGGCAGCTGGGGCCTGCCCAGGCTAGGGAAGAGAGCGTGGGGGTGTGGGGGATG
AAGGAAGATAAAGATGGGGTAGCGGGAGGGAGCGGGGGAAGCTGGGCCTCCAAGAAGCAC
AGGCTGACTTGGGAATCCCATCTCAAACGTGCCTCACCCTGGTCTCCAGCTGTAGGAGCA
GTGATAAGGATGAGGACAGGCAGGAGGGACTGAGATGAGATGAGAGCATTTGGAGCCTGG
AGAGAGACCCCTGACACTGAGGGAGTGAGGTGACCTGGTGGTGGCTATTCCAGGCCAAGC
ACCTTTGTTCAACTGTCAAAAACTAGAAACAGGCCGGGCGCAGTGGCTCATGCCTATAAT
CCCAGCACTTTGGGAGGCCAAGGTGGGTGGATAACTTGAGGTCAGGAGTTTGAAACCAGC
CTGGTCAACATGGTGAAACCCCATCTCTACTAAAAACACAGAAATTAGCCAGGTGTCGTG
GTGCATGCCTGTAATCCCAGCTACTCGGGAAGCTGAGGCAGGAGAATTGCTTGAACCCAG
GTGGCAGAGGTTGCAGTGAGCCAAGATTATGCCACTGCACTCTAGCCTGGGTGACAGAGC
GAGACTCCAACTCAAAAAAAAAAAACCTGAAAACAGCAATAATGCCAGTGGTACCCAACA
CGGCTACAGGACTTGTGCAGTGCCAGGCATTGCTCAAAGAATTCACTCATTGAATTCCTG
GTACCCAGGAAGTCTGGCCTCAAGCCTGAGCTCTGCCCCCGCTGAGCAGAACCCCTCTTT
CTAAACCCCGGACACTGGGCTGGACACACAGCCTCTCACTCACCCCCACAGCTCCCCGGG
GGCAGGGCACTGTTACCATTGTACAGACCAGGAGGCTGAGGCTCGAGATGGAGCCACCTG
AAGTGGCAAGTTGGTAGCATTGTACCTCCAATGACTCACCAAAACGCCTGCATAAAAATC
CAGGTGCAGTGGCACTCACCTGTAGTCCCAGCTACCTGGGAGGCTGAGGCAGGAGGAGCA
CTTGAGCCCAGGAAGTTTGAGGCCAGCTTGGGCAACACCATGAGCCAAAAATAAATAAAT
ACAATACAGGTAAAGTGCTTGTGTATAGGCAGTGTGGTGCAGGTGTGTGTACGCCTGACC
TAGGTCCCAGGAGTGACTAAGGGACACGCAGAGTGGGGCTCTCCAATCAGAAGCCCTCAC
TCTGGAATTGGTTATGGGAGGGTCCCTGGACCTCAGCATGTAATGCTTTGCTGTGGAGGC
TGTCCTGTGTGTTCAGCAGTGTCCCCACACCAGGAGCACAGCCTGTGACAGCCTGGCACA
TCTCCAGACACTGCCACACGTCCCTGTGCTAAAGGCATCTCTTCGGACCTGGGCTGGAGG
GTTCATTAACCCGTATGGTGGCTTAGGCATAATTTTCCATGGGCGAAATGAGTAGTATTG
AAGACACTATGGTATTTGGTTGGCTACAGTATTGCTCGGGCACCTTCCCCTCACACGAAC
AGGTGTGGGACTCTGGCAGACCACACAGCCTGACACCTACGGAGCGGCCCTGGGTCTGCG
GCTCCCACAGGGCCTCTGCCACTCCAGCCGTGACACACACACATGCTGTCACCAGCCTAG
GATGTGCACAAAGCCTGTAGGTCTGAGACCAAGGACATGAGCTTGGAGGAGCTGGCTGGA
TTCCTCAGACCTCTGGGGCCCGTTTGCCAGAGCAGAGCCGAGACCTGCCTGAGACCTGCC
TTCATTGCAACCCTGGCCCTGTGGCACGGCTGCAAGGGAGGAGAGACCGGGTGAAGGGCT
GCTTCCCCTTTCCATCCAAAAACACACAAACAAAAGACGCCTGAGCTTGGTGAACACACG
CACTGGTCAGGCTTAGCTCCATGCGGGGAGGATGTAAATTCAAACCCAGGTGGGCTGAAC
TCCAAAGCACTCTTCGGCCAACCACTGGTCACTGGAATGAACTGCCCCCAACCCTCTGTC
ATCTCGGGGACACAGACCCTGCCCCCCTCCGCAGGGCTGGACAGCAGAGCAGCTTCCCTC
TACAAAACGGTCAAAAAGGCAAAGAAAGACTTCCACACCCTGCCGCTGCCTGGGAGAACC
CTGAGCTTCCTTTCTGCAGTGACCTCTCCATTAGACGCACAGGCCCACGCATGCGCCCAC
GAACACATGTGAATTACTTCTAGGATCAGAAGGCAAAAAAATGTTCTTTAGGTCAAAGAA
AATGTGTTATTATATAAGAGTAATGTATTCATTGTTATAGCAAGTTGTAATATGCACTTC
TTTTTTTTTTTTTTTTTTGAGACGGAGCTTTGCTCTTTTTGCCCAGGCTGGAGTGCAATG
GCGCAATCTCGGCTCACCGCAACATCTGCCTCCTGGGTTCAAGCAATTCTCCTGCCTCAG
CCTCCTGAGTAGCTGGGATTACAGGCATGCACCACCACGCCTGGGTAATTTTTTGTATTT
TTAGTAGAGACAGATTTTCTCCATGTTGGTCAGGCTGGTCTCAAACTCCTGACCTCAGGT

FIG. 9T

AATCCGCCTGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCACCACGTCCGG
CTCACTTCTTTTTTTTTCTGAGAGAGAGACAGGGCTCACTCTATCACCCAGGCTGGAGTG
CAGTGGTGGGATCACAGCTCACTGCAGCCTTGACCTCCTGGGTTCAAGCGATCCTCCCAT
CTCCGCCTCCTGAGTAGCTGGGACTACAGGTATGTGCCACTGCACCCGGCTAATTTTTTT
AAAATTTCTTTAGAGACAGGGTCTCTCTATGTGGCCCAGGCCAGGGTGCAGTGGTGTGAT
CATAGCTCACTGCAGCCTCCAACTCCTGGACTGAAGCAGTCCTCCCACCTCAGCCTCATG
AGTAGCTGGGACTACAGGTGTGAGCCCCACACCTGGTCCTATTTCTTATTGGAAGGGCCA
CTGCAGGCCAAGATGCTCGGTGCCCAGGGAAGTCATAGCACGGCCCTGCCCTTGACCCCT
TCCAGCCATCCTGGGAATCTGTCCCCAGCCACCTCCAGGCCACAGGCTCCTTCCCCATCT
CTTCCCCACCCAGGAGCTGTGTTACACAGATCACTTTAGCGTTTCCCACGCTAAACCACT
GAAACTGAGGGTTTTATCTCCCACTCTCCTTGCTCCCAGTTCCGCATGGCCACTGGCCTG
GCTGAGACAGAGCCGCTGGAAGTGCCCGGCAGGACCTCTCACTTGACCTTCAGCCTCTTA
CTTAACCCTCCCAATGCAGGGCGGTAGCCTCCACTGGGTCCTGTTCAGCCCCTACTCCTA
GAAATGGTCTGGGGGGTAAGGGTGGGGCCCCCTGCAGAGCCCTTGGATGTGTGTTTGCGC
CATGGCAGTAGTACACCCACCCCCTTCTGCTTCCGCAGAACCTGGCCGGCTCCTCCCCAT
CCCAGGGGGAGAGGCTCCTCCTGCTCCCACTTCCCTCCTTTACATTTGGCTACTACTCTT
AGGGGTGGGGCTTTGTTTACTTTGCATTTTCCTGATTCCTAATGAGATTAAGCACATTTC
CTTAGGTTTACCGGCTTCCCAATCTCCTCTTCTGGGAATTTTCAGTGCCTATTCCTTTGT
CCAGTTATCTGCCTTCTTCTTCTTGATTGCTGGGAGCGGCTGATAAATCCTAGATGACCA
TCCTTTCTCAGTTTTCTCCCAGCCCCTCACCTTTTAATCTTAAATTGTTCTCTGTGGGTG
TGTGTGTGTGTGTGTGTGTGTGTGTGTGAGAGAGAGAGAAACAGGGAGAGAGATACAA
GCTTCAAATACTTATGTGGCCAAATCCGTCACAGGTTTTCCTTCTGTGTTTTACAATTTG
GAAACTGCTTTCTGGTCTCTAAGATTAAGTTGCTAATCTGTTAACCACTGGTGTTTAATT
CCCTGGGGGAGAAGCTTGTCTTCCCAGCCAGGCTGCAAAGTCCCCCAGGGTATGTCTCCA
TCTCCCCCCTCCCCCCATGAGGCCTTAGTCAAGAGATTCCACTGCTCCTCAGAAATACCG
TGAATTTGTCCCCTCCTTCCTGCCTCCACCCCTGCTCGCCAGGACCAATCTCTGCCTCCC
TCTCACCCTCTGCCCCACATGATTACCACAGTGATTTAAAAAAAAAAAATCCATCAGAGG
CCAGGTGCTGTGGCTCACGCCTGTAACCCCAGCACTTTGGGAGGTCAAAGCGGGCAGATC
ACCTGAGGTCAGGAGTTCGAGACCAGCCTGACCAACATGGAGAAACCCTGTCTCTACTAA
AAATACAAAATTAGCCGGGCGTAGTGGCACATGCCTGTAATCCCAGCTACTCAGGAGGCT
GAGGCAGGAGAATTGCTTGAACCCGGGAGGCAGAGGTTGCGGTGAGCCGAGATTGCACCA
TTGCACTCCAGACTGGGCAACAAGACCGAAACTCCATCTCAAAAAAAAAAACCCAAAAAGA
ATAGAAAAATGTCCATCAGGGCTGGATGCAGTGGCTCAAGCCTGTAATCTCAGCACTTTT
TTTTTTTTTTTTGAGATGGAGTCTCGCTCTGTCGCCCAGGCGGAAGTGCAGTGGCTGGAT
CTTGGCTCACTGCAACCTTTGCCTCCAGGCTCCAGTGATTCTCCCGCCTCAGCCTCCCAA
GTAGCTAGGACTACAAGTGTGCACCACTAGGCCAGGCTAATTTTTGTGTGTGTTTTTTTT
TTTTTTTTAGTAGAGTTGGGGTTTCACCATCTTGGCCAGGCTGGTCTCAAACTCCTGACC
TCAAGTGATCCTCCCGCCTTGGCCTCCCAAAGTGTGGGGATTACAGCTGTGAGCCACCAT
GTCTGGCCAAATCCCACCACTTTGGGAGGCCGAGGTGGGAAGACCGCTTAAAGCCAGGAG
TTTGAGACCAGCCTGGGCAACACAGAGAGACCCATCTCTACAAGAAGTGAAAAAAAAAGT
TGGGCACATGTTCTCAGGACCCCCTGAGGCTATGTCTTGGGTCATGGTCACTCATAAATA
AATTGTTTTAATTAAAAATAAATGTTGAAAAATTAGCTGAGCATGGTGGTATGTACTTGT
AGTCCCAGCTAAGGCAGGAGGATTTCTTTCTTTCTTTCTTTTTTTTTTTTTTTTGAGAT
GGAGCCTCACTCTGTCGCCCAGGCTGGAGTGCAGTGGTGCAATCTCGGCTCACTGCAAGC
TCCGCCTCCCGGGTTCACGCCATTCTGCCATTCTCCTGCCTCAGCCTCCCAAGTAGCTGG
GACTACAGGCGCCCGCCACTGTGCCCGGCTAATTTTTTGTATTTTTAGTAGAGATGGGGT

FIG. 9U

TTCACCGTGTTAGCCAGGATGGTCTCGATCTCCTGACCTCGTGATCCGCCCACCTCAGCC
TCCCAAGGTGCTGGGATTACAGGCGTGAGCCACCGCACCCAGCTGGGAGGCTAAGGCAGG
AGGATTTCTTGAGCCCAGGAGTTCAAGGCTGCAGTGAGCCAGGATTGTGCCACTGCACTC
CAGCCTGGGCAACAGAATGAGACCACATCTCTAAAAAAATTTAAAAATAAATAAAAAATA
AAAATGTCCCTTAGTTTGTCACTATATTGCCCAGGCTGGTTTGGAACTCCTGGCCTCATG
TAATCCTCCCAGCTCAGCCTCCCAAAGCGCCGGGATTACAGGCATAAGCCACTGCACCTG
ACCCCAACCGAAAATTCTTAAGGCACATTTTTGACACTAAAAACAGTATTTTATAACTGC
TAAAATAGATATGTTAATTCTAGTCTTTTCTTGTGCACAGAAACAAATTACCACTTTAGT
TTCTCAAGGAGCACATGTATACATGTTAAATGCATTAATTTGTTTAATATAAACATGAAA
TACTTTTTATAACCTGGATTGGTACATATTTCTTTTCTTTTCTTTTTTTTCTTTGAGGCA
AGATCTGGCCCTATCACCAGGCTGGAGTGCAGTGGTGCAATCTTGGCTCACTGCTACCTC
TGCCTCCCGGGCTCAAGCAATCCTCCCACCTCAGTCTCCTGAGTAGCTGGGACTACAGGC
ATGTGCCACCATGACCGGCTAATTTCTGTTTTGTTTTTTTTTGTTTGCTTTTTTTTTTTT
TTTTTTTTTTTTTTGTAGAGACGGAGTTTCACCATGTTGCCCAGACTATTCTCAAACTCC
TGGGCTCAAGCGATCCTCAACCTCAACCTCCCGAAGTGTTGGGATTCCAGGTGTGAGCCA
CTGCACCCAGCCCTTTTATTTATTTTTTATTTTTTATTTTTTTTTTTTGAGACGGAGTTT
CGCTCTTGTCACCCAGACTGGAGTGCAGGGGCGCAATCTTGGCTCATTGCAACCTCCACC
TCCGTGGTTCAAGCAGTTCCCCGGCCTCAGCCTCCCGAGTAGCTGAGATTACAAGCACAC
GCCACCAAGCCCAGCTAATTTTTTTGTATTTTTAGTAGAGACAGGGTTTCATCATGTTGA
CCAGCCTGGTCTCAAACTCCTGACCTCAGGCAATCCGCCTGCCTCAGCCTTCCAAAGTGC
TGGGATTACAGGCATGAGCCACTGCGCCTGGCCCCCATTTCTTATTATACAGTAGTTTAC
AAAAAAATCCCAGCAGCCAGCTCCAGAGAGGCCTTGTTCTGTGGTGTCTAAGGATGGAGC
CCAGGCAGGGACGGCCAAAAGCTCGCTACCCCTGCCCAGGAAGGCAGGAGCACCGTTGTG
TCCCGTTCCTATCCCTCAAAAATAAATCACAGCCAGCTCATGTCATAGGACAGAGCCTGT
TCGCAATCCATCCTGTGTCTGCGGATTCTCCCAGGTCTGTAAGGCAGCAGGGAGATGCGG
CCTCTCCCACTCCACCCAACACGTAGCCAGGGCGAGGTGGGGCCGGGGGAGAGGCTGACA
TTCAAAGGCATCTGAGTGGTAAGAGGTGAGCGAGTGAGGTGAATGGGGACTACGTTAGAA
GGACCCTACGTTAGAAGGGTGAGGCGCTAGGGCCATAGCCTAAGGGCACTGGGAACCCTG
TGGGCATGCGCAGTTCAAGCCCATCCCCGCTCCCTCCAGCTGCTGTCCATCCCTGCCACA
CCTGACCATTTGCCTAACCTAGATCCTTCCTGTCTTGCATTTCCTCAAGCATCCGGAGCC
CAGGACTGCTGAGTCAACCCTCTGGAATGCCCACAACTCCCCACAGGCCAGCCGGCCTTG
GGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTGCTAGTGGAGGCTGTT
AACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCATCTGGTCCTCCAGAGGT
AAACAATTTACAAGAGACACATCAAGCCGGCCTGCTGTTCTGGTTTTTCTTTTGACAGTG
AAATATGCAGTTTCTTTTTCATCCTGGTGCCTATTGGAGAGGGAGACTGTTCCAGGCACT
CTGACCCCAGCTAAAGCGCCTCCCTGGGGCAGGATCTATGCAGGGAGGCAGAAAAGTCAG
ATTTTTTTTCACATCTTCTTTGTTCCATTCCCAGGACTGAGCAACTTCATGTATTTATGT
ATTTATTTATTTATTTATAGACAGGTTCTCACTATGTCGCCCAGGCTGGAGTGCAGTGGT
GCGGTCACAGCTCACTGCAACCTCAATGTCCTAGGCTCCAGTGATCCTCCTGCCTCAGCC
TCCTGAGTAGCCGGGACCATAGGTGTGTACCACCATGCCAGGGGAATTTTTGTATCTTTG
GTTAGAGAAAGGGTTTTGCTGTGATGTTGCCCAGTCTGGTCTCAAACTCCTGAGCTCAAG
CGATTCACCCTCCTGGGCCTCCCAAAGTGCTGGGATTACAGGTGGGAGCCACTGTGCGTG
GCCCAGGACTGAGCAACTTTAAGTCAGATGGTTAACCTACATCATGAGGAAAGTGGATTT
CCTCCCAAAGGAACAGACTTATTTTCTAGAACCCAAAGCCTTGAATTTCAAGAACCTTTA
GCCTTAAATCCATTTCCTGTTGGAAGCAGACCCCCTCCTGGTCTCCCCAGGTATTGCAAC
CCTGCTCTACCAGCCACTATAAATGCCCACACAAAAGGAACAGGGGCTCCATTCCTGATG

FIG. 9V

CTCAGAGTGGAGTCACTAGATTCTCAAGCATATGAGATATGTATGTGGCCTAACAGCCTG
AAATAAACAGCTTGTGCTGGGATTGTAATTCTAGAGTTTCCAAAAGTGTTGCAAAATATT
CCAGGCAGACACTAAAGTTTGTGTACTACAAGCTGTTTATTAATTAATTTCTTATTTGCC
AAACATTCTTGCTTGGGTCTACTGGGAGATGATTTCGTTGGGAATGCATCTCCAATTTTG
TAATAAAGATCACCAGGGAAAGAAGGCTTGCTTCATAGGGGCTCATATTACAGGAAATGT
GGCTAGCATAGGTAGTTCCCATAAGAAAAAGGACAGTACTAAGTTTTGAGCTCATGTGAA
AAAGAAAAGGGGGCCGGGCGTGGTGGCTCACACCTGTAATCCGCACTTTCGGAGGCCGAG
GCGGACGGATCACTTGAGGTCAGGAGTTCAAGACCAGCTTGGCCAACATGGCAAAACCCT
GTCTCTATTAAAAATACAAAAATTAGCCAGGCGTGGTGGCGGACGCCTGTAATCCCAGCT
ACTTGGGAGGCTGAGGCAGGAGAATCACTTGAACCCGGGAGGCGGAGGTTGTAGTGAGCC
AGGATCGCATCACTGTACTCCAGCCTAGGCGACAAGAGCGAAACTCCATCTCAAAAGAAA
AAAAAGAAAAGTGACGTCTGGGGACCAGGATTTTGGGACTCTTTGCAGACATGCCAATAA
CCTGTGAGATACACACCCACAGACTGACACAGAGGTGAGCAGAGGCCTTGGAGTCAACAG
AAGTTCAAGTCTAGCCTTTGCCTCATTCTCTTTTTTTTTTTTTTTTTTTTTGAGATGGA
GTCTTGCTCTGTCACCCAGGCTGGAGTGCAGTGGCGCAATCTCGGCTCACTGCAAGCTCC
GCCTCCCGGGTTCACGCCATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGACTACAGGCG
CCCGCTACCATGCCCGGCTAATTTTTTGTATTTTTAGTAGAGACAGGGTTTCACCGTGTT
AGCCAGGATGGTCTCGATCTCCTGACCTCGTGATCCACCCGCCTCGGCCTCCCAAAGTGC
TGGGATTACAGGCATGAGCCACCGCACCCGGCCACCTCATTCTCACTATGTGACCTTGGA
CAAGTCACTTATCCTCTTTGAGCCTCCAGTTCCTCATCTATACATTGGAAGCCACTGAAA
TTATCTTACAGTTACTTTCAGTTGCGAGGACTTGCTCTTTTTCTCTTCATTAAAAGGAAA
ACACAAAATATAATTTATAGCTTATCCTACCACTTTGTGCTGCTAAGGTTAAAATCCAGG
GTAGTGGCCAGGCGCGGTGGCTCATGCCTACAATCCTAGCATTTTGGGAGGCCAAGACGG
GTGGATCACCTGAGGTCAGGAGTTTTAGACCAGCCTCACCAACATGGAGAAACCCCATCT
CTACTAAAAATATAAAAATTAGCTGGGTGTGTTGGTGGGCACCTGTAATCCCAGCTACTC
GGGAGACTGAGGCAGGAGAATTGCCTGAACCTGGGAGGCAGAGGTTGCAGTGAGCTGAGA
TCATGCCACTGCACTCCAGCCTGGGTGACAATAGCAACACTCCATCTCTAAAAAAAAGAA
AGAAAAAAATCCAGGGTACTCTATGGTTTCCTGGGGCTGCTGTAAAAAAAAAAAAAAATA
CTACAAACTGGGTGGCTTCAAACAAGGGAAACTTATTGTCTTGCAGTTCTGGAGGTTAGA
AGTCCAAATCAAGGTGTCGGCAGGGCCATGCTCCCTCTAAAGCAGCGGTCCCCAACCTTT
TTGGCACCAGGGACAAGTTTTGTGGAAGACAATTTTTCCACTGACCAGGGTGGGGGTTGG
GTGGGTGGTTTTGGGGTGATTCAAGTGCATTACATTCATTGTGCACTTTATTTCTACTAC
TACATTGTAATATATAATGAAATAATTATACAACTCACATTCCATAATGTGGAATCAGTG
GGAGCCCTGAGCTTGTTTTCCTGCAACTAGATGGTCCCATCTGGGGGTGATGGAGACAGT
GACAGATCATCAGGCATTAGATTCTCATAAGGAGCATGCAGCCGAGATCCCTCGCATGCG
TAGTTCACAATAGGGTTCGTGCTCCTGTGAGAATTGAACGCCTCCACTGATCAGACAGGA
GGTAACACAAGCAATGGGGAGTGGTTCTAAATACAGATGAAGCTTCGCTTACCTGCCTGC
TGCTAACCTCCTGCTATGTGGCCCAGTTCCTAACAGACCATGGACAAGTACAAGTCCATG
GCCCAGGGGTTGGGAACCCTTGCTCTAAAGGATCTAGGAAAGAATCCTTCCTTGCCTCTT
CCTAGCTTCTGGTGATGGCTACCAATCCTTGGCATTTCTGGTCTTGTAGCTGCATGACGC
CAATCTCTGCTTCTGTTGTCCCATGGTGCTTCCCAGTGTCTCTGTCTTCACAGCTCTTCC
TCTTCTTATAAGGATATGACGGTATTGAATTAGAGGCAGGGCACAATGGCTCACACCTGT
AATCCCAACACTTTGGGAGGCCAAGATGGACAGATCACCTGAGGTTAGGAGTTGGAGACC
AGCCTGGCCAACATGGCGAAACCCCGTCTCTACTAAAAATACAAACATTAGCCAGGGGTG
GTGGTGGGTACCTGTAATCCCAGCTACTCGGGAGGCTGAGGCAGGAGAATCGCTCAAACC
CAGGAGGCAGAGTTTGTAGTGGGCTGAGATCATGCCATTGCACTCCAACCTGGCTACAGA

FIG. 9W

GCAAGCCATCTCAAAAAAAAGAAAAGATGTAGGCCCCTGGGAAGGATGCCTGGCACACTC
AGAGGTGGGACAATGGTGACAGTCCTGACACTTTCCCTCTGGAGAGCATGGACCCCTGGT
CTTGGCCATGCAGCCAGGCCTGGCCCAGCCTGCCTGTCCCCCACCCCCACCCACAGGGAC
TGGGCCCTTCCTGCCCAGGAACTATTCTGATTCTGCAGCCCTCAGGCTTTATTGCTTTTC
CTGCTTAATGAGGTGAGGTTCGCTCAGCCCAGTGGCAATTCCTGTAAAAGCCATTTGGAT
GACCCAATGGGGTGAGTTTACAGGGAAGCGCTCCCTGAGGGCTAGGCTGGCTGGAAGCAG
ATACTTTGCCCCCTTCCAAGGACGGTAATGAGGTTTGAGGCTTCCAATGGGGGCAGGGGA
TGATCTGGGCGCCAAAAGCCCTGGCCTGGGGTCAAAAGATCTGGGCTCCAGCCCCAGCCG
GGCTAACTAGGCAGTCTCCTGTCTGAGCTGTACTCCCCTCATGGGTGAAATGGGGATACA
GGCACATACTTTATAGCCTGCAGTCTGTGTGTAACAGAGAACCATAAGCTGGTGGGTCGG
GGAGTGGGGCTGGGGGTTATTTCTCATGGTTCTGGAAGCGAGGAGTTGGAGATCAGGGTG
ACTGCATGGTAAGGTTCTGGTGAGGGCCCTCTTCCAGGTTGCAGACTATGGTCCTCTCAT
TTCATCCCCACGTGGAGGGAAGAGGCAAGAGAACACTCTGGAAGTTATAAGAGCACTAAT
CCCATTAATCCCATTCACCAGGCCTCCACCCTCGAGATCTATTCACCTCCCAAAGGCCCC
ACCTCCTAATCACAGCACGGGGGTTTGGGTTCAACATAGGAATTTTTTTTTGAGATGGCA
TCTCACACAGTGTTGCCAGGCTGTAGTGCAGTGGCGCAATCTCTGCTCACTGCAACCTCC
ACCTCCCGGGCTCAAACAATCCTCCCACCTCAGCCTCCTGAGTAGCTGGGACCACAGGTG
TGCACCACCACACCTGGCTAACTTTTTGTACTTTTAGTAGAGACGAGATTTCACCGTGTT
GCTCAGATTGGTCTCAAACTCCTGAGCTTAAGTGATTTGCCCACGTTGGCCTCCCAAAGT
GTTGGGATTACAGATGTGAGACACCACATCCAACCTCAACATATGAATTTTAGAGTGACC
CAAACATTCAGTCCATCACAGTCTCCTGCAGGATTACAGATGTATAATCAGTCTGTAATC
CACAAAGTTCTAAGCAAAGGAAAAGAAGTACCAATATCACTATTGCTATTGTTATTATCA
GCACCCAAGACCTTCCCCAGTCTCAGTGAGTGGAATATTAAGATGATCCCAAAGACGCTC
GACTTCTCTAACCCGTAATACTCACAGGTTCCACCCCTTTGATTGTGGGCAGAACCTGTG
AATATTATGATCTGACTGCCATGGTTACCTTATATGACAAAAGGGAGATTAGCCTGGGTG
GGCCTGACCTAATCAGAGAGCCCTCAAACAGGACTGGCTTTTTGTTTTTTGTTTTTTTTT
TGAGACCGAGTCTCGCTCTGTCACCTAGACTGGAGTGCAGTGGCATGATCTCAGCTCACT
GCAACCTCTGCCTCCCGGGTTCAAGCAGTTCTCCTGCCTCAGCCTCCTGTTGGCTCTTAC
TGGCCAAGGAGATTCAAAGTATGAGAGGGATTCAGCGTGAGAGAGATTTTCCATTGCAGG
CTTTGGAGGTGAAGGTGGCCAATACAGGAGGCCTCTAGAAGCTGAAAGCAGCCCCCCAGT
GACAGCTAGGAAGGAAATGGGGACCTCAGTCCTATGGCCACACGGAACTGAATGACCTTG
GAAGTGGATTTGTCCCCAGATCCTCCAGACAAGAACTCAGCCGGACCAACATCTTGCATT
TCAGCCTTGCGATGAGCAGAGAACTCAGCCATGCCAGACTCTGGACCAACACAGCTGTGA
GCTCATACATGGATATTGTTTTAAGCTGCTGGGTCTGGGATCATTTGTTACACAGCAATA
GAAAACCAATACATACTCTGTCAAGGAAGCCTGAGAATGGAAGGCCCCTACTCAATCTAC
CCTCCCACTATAGTCTGGTGGTTAGAGACAAGGGCTCTGGAGTCAGATGGAACGGTGTTC
GAATCTTGGCAATTCCATCCACTGGCTGTGGAACGTTGTCCACACTCCCTTCCTCACCTC
TTATATCCTCGGTTTCCTCATCTGTGAAATAGCAGTGGAAATAAAATGCATGGAAATCAT
CAGAGCAGGGTATGCATCGTAAGGACACATAGTAATAGCTCAAGAAACACTGTATATGTT
AAACATTAGAAACGAGCTGAGAACTAACACCAATGCACCTGTGTTCTTCAATGCACTGCC
TACACACCAGAGAAGAGGGGGAGGAGCCCAGATCTGCTGCTCTGGGAGCTACAGGCCAAT
TAGGGAATCAGGAACCTGAACAGAAAACCACAACTTCAGGGAAAGTAGATGGTACATGTG
TTATGTTATTGTGGACATGGCGGGGCAAAGACAAGACCTTAGGTCTTTGAACTCCCCCTC
GGAGTCTGGCACAGGCCTGAGTGGAGCTCCCTCCTCAAGACTTCCTTTGCACTGGCTTCC
CTGAGGAAGCATTTGCATTTAGGGTTCTGCTGTGGAACCTCTTTCTCTTGATCTACATGA
AGCCTGAGGCCAAGGCCTTACACCTGTAAGGGAGGAGGTGGCCCTGGGCCCAGGAAAAGG

FIG. 9X

GTGGGTCCAGTCTCCCAGTTCTGTCCCTGGCATGTACTCTCCCCAGGCCTATCCCACCCC
CAAGTCCTCCCAGGCTCCAAACCCTGAGGCCCCACCGACTGTCACTCAAGAAATCACCGA
GGCTGGGCATGGTGGTTCATGCCTATAATCCCAGCACTTTGGGAGGCTGGGGCAGGTGAA
TCACTTGAGGTCAGGAATTCAAGACCAGCCTGGCCAACATGGTGAAACCCCATCTCTACT
GAAAATACACAAATTAGCCAGGCGTGGTGGCGGGCGCCTGTAATCCCAGCTACTTGGGAG
GCTGAGACAATAGAATCGCTTGAGCCTGGGAGGTGGAGGTTGCAGTGAGCCGAGATTGCA
ACACGGCACTCCAGCCTGGGCGACAGAGAGAGATTCTGTCTCAAAAAAAAAAAAAAAAAA
AAAAAGAAAAGAAAAGAAAAGAAAGAAAGAAAAGAAAAGAAAAAAGAAATCACCAAGCCC
TCTCTATACCCATAAGCACAGCCTTGACCGAAGTCCTGACGGCTGAGCATGCAGCTCAAA
TCCCTGGGGAGATACCACTGCACATACACGAGGGCGGTCGTCATCCAAAAGACAGACCAC
AGCAAGCGCTGGAGAGGATGTGGGGCAACTGAAACCCTGGTACGCTACTGGTGACATGTA
AGAGGGCGCAGCTGCTTTGGAAAACAGCTTGGCAGTTCCTCAAATGGTTAAGTATGAAAT
TAAGCAAATGGTTAAATGTAAATACGACCCAGCAGTTCCACTCCTAAGTATACATCCAAG
AGGAATGTTAACATATGTCCACGCAAAACCCATACACAGACATTCAGAGCAGCATTACTC
ATAGTAGCCAAGAAGTAAAAACAGCTCAAATATTTATCAGCTGATGAGTGGGTAAACAAA
ATGTGGGACAGCCATACAAAGGGACACTATAGGGCCATATAAAAGGGACCAAGCCCTGAT
GCATGCTGTGAGACAGATGAACCTTGAAAACGGTATGCTAAGTGAAAGAAGCCAGAACCA
GCAGGCCACAGAAGGTATGGCTCCACGGACAAGCAAGTCCAGAGCAGGCAAATCCAGAGA
GACAGAAAGTGGATCAGTCATTGCCAGAAGTTGAGGGAGGGGAGAATGGGAGTCATTACT
AATAGGTATGGGGTTTCTTTCTGGGGTAAAACTGCTCTGGATTTAGATAGTGGTGATGGT
TGCACAGCTTTGTGAATATGCCAAAAAAAAGAAAAAAACACTAAATTGTATACTTTTTTT
TTTTTTTGAGACAGCCTCCCTCTATTACCCAGGCTGGAGTGCAGTGGCACAATCTTGGCT
CACTGCAACCTCTGCCTCCTGGGTTCAAGCGATTTTCCTGCCTCAGCCTCCTGAGATTAC
AGGCGTATGCCACCACACTTGGCTAATTTTTTTTTTTTTTCGAGACAGGGTCTCCCTCTGT
TGTCCATGCTAGAGTGCAGTGGTGCCATCTTGGCTCACTGAAACCTCTGCCTCCCGGGTT
TGAGCAATTCTCCCACCTCAGCCTCCCAAGTAGGTGGGACTACAGGCATGCACCACCCAC
TTGGCTACTTTTTGAATTTTTTTGTAGAGACAGGGTTTTGCCATGTTGCCCAGGCTGGTC
TCAAACTCCTGGAGTCAAACAATCCATCCGCCTCGGATATTTCTCACTGGCATAATCAGT
GCTGAAAGATCATTGAAAAGGGGCTTGCATGATCCAGAGGTCACTGTTATTTAATGCGCT
CTCCTCATCTCCTGCAGGTTGTGACTTCAATATACCCTCTCATGAGACCTTTCCTGGCCC
CTTATCTGTAAGTGTGACCACCGGGACCCCGTCTCCCAATTCCCTCTTCCTGCTTTATTT
TTCTCTTTAGCATTTAATACCATCTGACATTCCAAACATTACCTTGTCCTTGTCTGGTGT
TTGTCACCCCAACTAGAAGTGCTAGGGGGCAAGTACTAGGAAGCAGGGTTTTTTCTTTTT
CTTTCCTTTTTTTTTTGAGATGAAATTTCTCTCTTGTCTCCCAGGCTGGAGTACAGTGGCG
CAATATCGGTTCACTGCAACCTCCACCTCCCGGGTTCAAGTGATTCTCCTGCCTCAGCCT
CCCAAGTAGTTGGCACTACAGGTGCCTGCCATCATGCCCAACTAATTTTTGTATTTTTAG
TAGAGATGGGGTTTCACTCCGTTGGCCAGGCTGGTCTCGAACTCCTGACCTCATGACTCT
CCCAGGAGGCAGAGTTTTTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGGCTTGCTCTGT
CACCCAGGCTGGAGTGCAGTGGCGCAATCTCGGCTCACTGCAAGCTCCCAGGAGGCAGAG
TTTTTGTCTGCGTGGTTCACTGCTAAGTCCCCAGCACTAAGAGGACAGGACCTAACACAT
AGGAGGCACTCAGCAAACATCCATGAACGAATGAATGAATCTGTATCTCCAGTGGCTTTG
TCCTCTCTTATATCAGCTTTGTTCCACATCTTACACTTAGGAGGTGATTCAATTAAACAT
TGCTTTTTGTGTGTGTTTGGTGGGGTTTTTTTGTTTTTTTTGTCTTTTTGTTTTTTGAGAC
AGCATCTCAATCTTTTGCCTAGGCTGGTGTACAGTGGTGCCATCACCACTCACTGCAGCC
TCAACTTCCCAAACTCAGGTGATTCTCCCACCTCAACTCCCCGAGTAGCTGGGACTACAG
GCACGCACCACCACACCAGCTACTTTTTGTATTTTTAGTAGAGATGGGGTTTCACCATGT

FIG. 9Y

TGCCATGGCTGGTCTCAAACTCCTGGCCTCAAGCCATCCATTTGCCCAACTAGGCCCCCC
AGAGTGCTGGGATTATGGGCGTGAGCCACTGCACCCGGCCAACCATTGTTGAGTGAGCAA
GTAAATGAACTCATCAACGAATTTCTCCCTGGGTAGCGAAGCTCCCGCTTTTTGAGGTAA
CCCAGACTTTTCATTTGTATGTTTCCTGAGTCCCTGACTGTACATTCTTCCTGCATATTG
TCTCCAGGACTAAGAGAATGGAGCCTTTTGCCAAGAAGAGGTTGCGTTCTCAGGCCTCCA
GTTTAGATTAAATAGTGGTTTTACAAGGGGAAACAAAGTGACAAACCCCCAGAAGTTGTG
GGGAGCTGAGACGGGGTGGGAATAGGGTTCCCCAGGGACAAACTCCTTCTTGTCCCCCTG
CCCAGCGCCCCAGGGCACACTGCCCAGTGGGTGAAAGCAGCCAGACACACGGGCTCACTG
CAGTTACCAAGCAATCCTAAGTGTATCAAGATGGGCGCGCTGACGACAGCTGCACCGAGT
GAATCTGGAATGAATTGGGGGGTTGTTAAGATCGCCGACTTAAGCCTCTTCTCACAGGAA
AAATATTTATTTCACTGAGCTCTGCTTTTTGGAAAGCTGCGCCTGTAACAGTCTGCATCG
ATCTAGCAGAGTTTTGGCTACTGCTGGGTTTTGTCTCCCTCCTGTCTCGGTTAGCGTGGG
CTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTCCACAGCACACCCTCCCATTATTA
AGCAATCAGCCAAAAGACTCAGCCAGGACACTCTGCTCTTCTTTAACCAGAAAAAAGATG
AACACGAACTGAGTTCGTGGCATGAGGCACGAGACCTTCATGTTTTATCTTCAAAGATGC
CTGCTTGAAACTAGCAATTGTTTCTTTCCCTTTTTATCTAGTAAATTGCTCCCTCTACCT
CCTCCCAGTTTGGGAAAAAAATACAAGTATGAAGAAGAAAGTAAAAATCACTCCTATGGT
TAGGTTAGGCTTGACTGCAGAATTGTTTCCTTTTTTTTTCTTTTTTTCTTTTTTTTTGAG
ACGGAGTCTCACTGTTGCCCAGGCTGGAGTGCAGTAGCATGCGATCTTGGCTCACTGCAA
CCTCCACCTCCTGGGTTCAAGCGATTCTCCTGCCTCAGCCTCCTGAGCAGCTGGGACTAC
AGGCCCGCATCACCATGCCCGGCTAATTTTTGTATTTTTAGTAGAGACGGGGTTTCACCA
TGTTGGCCAGGCTGTCCTTTCCTTTTCTACTCTTTGGAGTCGAGGGGCCTGGGTTTGAAT
CCTAGCTCTGCCACTTGCTGGCTGTGTAACCCTGAGAATCATGTCACCACTTGGAACCTC
TGTTTCCTCATCTGTCAAATGGTGTAATAATAGTGCCTGCCTCTTTGATTGTTGGGAGGA
GTAAACAAGAGAAAGTATATATAGAGCTTAGTGAAGGTTCAGCAACAATAAATGCAAATG
GTACCTATTTTATAGGAGAAATATATACAATTTTTTATCTTCTTTTTCATAAAACAGTAT
AGCGTATACAGTTTCCTGTTTCACTGCCTCATTTTAGAGGCAGAGTCTTGCTGTGTTGCC
CAGGCTGGCCTCAAACTCCTGTCTGTGCTCAAATGATCCTCCTGCCTCAGCCTCCTGAGT
AGCTGGGATTACAGGCACCCACCACCATGCCCGGCTAATTTTTGTACTTTTAGTAGAGAC
GGGGTTTCATCGTGTTGGTCAGGCTGGTCTCGAACTCCTGACCTCATGATCCGCCCACCT
CGGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCTACCGTGCCCGGCCAACTCACAAGC
ATTTCTAATGACTGCAAAATAGTCCATTGGGGGCCCATCCCTACATTAGTTTTTAAACCG
TTTCCTATGGATGGAAATAGAAGTTGCTTCCGAAATATTATAAAGATTGCTGTGATAAAC
ACCTCCAGACTCAAATCTTGGTCTATGTTTGAGGCTCTGTCTTTAGGATGAATTCTCAGA
AGTTAAATTGTTGGTCAAATAGTATGATCACTTCCAAGAGCCTTGATATACCATACTTAG
CACTGCAAGTTGCTTTCGAGAAAGATTACCTACAGATGTGTATGAGAGAACCCTGTGGCC
AAGCGAGGTGGCTCATGCCTATAGTCCCAACACTTTGGGAGGCCAAGGTGGGAGGATCAC
TTGAGCCCAGGAGTTCAAGACCAGCCTTGGCAACATAGTGAGACCCCATCTCTCCACACA
CACAAAGAAAGAGAGAGGCTGGGCATGGTGGTTCACACCTATAATCCTAGCACTTTAGGA
GACCTAGGCAGGTGGATCACTTGAGGTCAGGAGTTCGAGACCAGCCTGGCCAACATGGCA
AAACCTCATCTCTACTACAGATACAAAAATTAGCCAGGCCTGGTGGCATGTGCCTGTAAT
CCCAGCTACTTGGGAGGCTGAGGCAGGAGAATTGCTTGAACCTGGGAGGTGGAGGTTGCA
GTGAGCTGAGATCACACCACTGCACTTTAGTCTGGGCAACAGAGTGAGACTCTTCTCAGA
AAAAAAAAGAGAGAAAGAGAGAGAGAACCCATCTTACCACATCCCAGCTGCATTGAGGAT
TATTACCTTTTAGTTGTTGTTAATTTGACAGGCAAAATGACATCTCATTCTTAAATCTGC
ATTAAAAAAATTTCACCCAGTATTTTTCTAATACTAGTTTTATTGGCTACAATGTGTTGA

FIG. 9Z

GTGTTTACTACATGCCAAGCATAGGGTAAATGTCTTTTACTTTTTTTTTTTTTTTTTT
TTGAGAGACAGGGTCTTGCCTGTTGCCCAGGCTGGAGTGCAGTGATGCGATCATACCTCA
CTACAGCCTTGAACTCCTGGGCTCAAGGGATCTTTCTGCATCAGCCTCTCTCTTAAGTAG
CTAGGACTCCAGGTGCACCACCATGCCTGGCTAATTTTTTTTTATTTTTATTTTTTTGTA
GTAACAGGGCCTCGGTATATTGCCCAGGCTGGTCTCAAACTCCTGGGCTCAAGTGCTCCT
CCTACCTCGGCCTCCCAAAGTACTGGGATTACAGGTGTGAGACACCATACCCAGCCTCCA
TAAAATGTTTTAATCAAACTTCTGGGTATGTACCCAAAAGAAGCGAAAGCAGGGACTCTA
ACAAATATTTGTACATCTATATTCATAGCCACATTATTCATCATAGCAAAAAGGTGCAAG
AGACCCAAATGTCCATTGACAGATGAATGGATAAACAAAATGTGGTGTGTATATATGCAA
TGAGATATTATTCAGCCTTAAAAAGGAAGAAAATGTTGACCCATACGACAACATGGATGA
ACCATGAAGACATTATGATAAGAAAATATGCCCATCACACAAGGACAAGTGATGTATGAT
CCTTTTATATGAGGTTCCTAGAATACTCAAATTCAGAGACAGAAATCAGAATGGTTGGAC
TGAGCGAGGTGGCTCACACCTGTAATCCCAGCACTTTGGGAGACCACGGTGGGAGGATCG
CTCGAGCCCAGGAGTTTGAGACCAGCCTGGACAACAGAGTGAGATCCTATCTCTACAAAA
TAAAACTTTTTAAAAATTAGCCAGGTGTGGTGGTATATGCCTACTACTCAGGAGGCTGAG
GTGGGAGGATTGATTAGACTCAAGAGATCAAGGTTACAGTGAGCTGTAATTGCCCCACTG
CACTGCAGCCTGGGAAACAGAGCGAGATTCTGTCTCAAAAAAAAAAAATTATAATCAATC
TTTACATGTTATTTTATAAGATGTTATTATTACCCTCCAGCCTTCTTTAAAAGATGATGA
AACTAAGGCTCAGAGAGATGAAACACGTTCCTAGAGTCACATAGCTTATAAATGGTGAAG
ACAGGTTTAGATGCCAGGTCTTACTCTCCAAGGCTACGTTATCCTGCAAATTCTGGTGGA
CCTGGGAGGTAAAGGGGAAATACAATCAAGCTCTAGGTGGCAGATGGAGTTAGCAAGTAC
CCAGTGCCAAACGGAACTGTTGGCCCTGAGAGCTCAGAGTTCAGTTCTAAATTTATTCTC
TCTGACCTTATTGTGGATTCTAAATTTGGCCAAACAAGTTCTTCCAGACCGATTAGTGAC
GTGGATACATTGTTTTGAAGATAAAACCCTTTTCCTGGTATGAAAGAAAAAAAATAATAA
TGCAGCATTTGCTTGCAGAAGCCACCCTGCCGCTGGTTAACAGCCATCTGAAAATGATTC
TGGGTTTTCCACCTGATGGTGGACACATGTGCTTGTTGGCCGATTTCTTGGGGACAGTGA
TTAAAACCATTTCCTGAACCGAAGTCTGAATTTCTCCTCCTGAATGAACCAGAAACAAAA
CATCAGGAAATATCCAGGCATGAAAATTCTAACCAGGGCCGGGTGCGGTGGCTCACAACT
GTAATCCCAGCACTTTGGGAGGCTGAAGGGGGTGGATCACCTGAGGTCAGGAGTTTGAGA
CCAGACTGGTTAACATGACAAAACCCCATCTCTACTAAAAATACAAAAATTAGCCAGGCG
TGGTGGCAGGCACCTGTAATCCCAGCTACTCGGGAGGCTGAGGCGGAAGAATCACTTGAA
CCCTGGAAGCAGAGGTTGCAGTGAGCCGAGATCACACCATTGCACTCCAGCCTAGGTGAC
AAGAGCGAAACTCCGTCTCAAAAAAAAAAAAAAAAAAAAATTCTAACCAGAACCAAACTT
AAAATTCTCCCAAAATTACAAATTAAGACCAAAATAGGCCTCTTTGGGTGGTTTCCAGGC
CAGGGAGGAGTTATGGGGTCCTCGGATAATCACCAGCTGAGTCCTGACTTCTCTGGGAAG
GTATTGGGGTGACTGACCTGTTTGTGACCCCTTCTCAGACACCCTATCTCCAATCAGGTG
GAGGAGGCACGTGACCCACATGGTCTGGCCACTGATGACTGAACAAGCTATGGACACCGG
ACCCCGGAGAGACCATTCACTCACTGGCCACGAACATGAGTTCAGATACATGCCCCAAAA
GGATGAGCCTGGGTACTGGATTCCCTCCCTCAGAAACGTGAATCAAGAGACACAGGATGT
TCCTGTTGGTCCAGATACTTGAGCTAAAAGGTGATGGATACCTGGATGTGGGGTGGTCAT
TCTGGGGAGTACGTCCATATAGAAAGAGGAGCAGGTGCTGTGGGATTCTGGATCCCAGTG
ATAGAGCTAAGTGGCTGGATCAAGCTTCACCTGAAACCCACTCTACTTGTCTTAGTCCAT
TTTGTGTTGCTATAAAAGAATACCTGCAACTGGGTAATGTATAAAGAAAAGAGACTTATT
TCATTTTATAGCTCTGCAGTCTGAGACATTTAAAGGGATGGCCTTGACTTCTGGCAAGGG
CTTGCACGTTGCATCACCACACGCAGGAAAAGGGAAAACAGAAGGGAGACTGCAAAAAAG
GGGAAAACCTGAAGGTCATCATAGCTTTATAATAACCCACTCTCACAGCAATGAGTTAGA

FIG. 9AA

TGGAGAACCAATTCAGTCTCACGAGAGTGACAGCAAGAACTCACTCACTGGTGAGAGGGT
AGCACTTCCAAGCCATTCATGAGGGATTCACCTCCATAGCCCAACACCTCCCACTAGGCC
CCGCCTCCCAACACTGCCACAGTGGAGATCAAATTGCAACATGAGTTTTGGTGGAGACAA
ACACCCCCTATCCAAATCACAGCACTACCCCCGAACTTTCCATTACACGAACCAAAGAAT
CTTCCTTTAAATTAGTGTCATTGGGTTTTCTGGGATTTACCTTTTTTTTTTTTTTTTTT
TTTTGAGACAGGGTCTTGCTCTGTCACCCAGGCTAGAGTGTAGTGGCACAAACACAGCTC
ACTGTAGGCTCGACCTCCTGGGCTCAAGGGATCCTCCCACCTCAGCACCCCCCACCTATG
CCCTCAAAGTAGCTGGAACTACAGGAACCACCACACCTGGCTAATTAAAAAAAAAAAATT
TTGTAGAGGCCGGGTGCGGTGTCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCGAGGT
GAGTGGATCACCTGAGGTCAGGAGTACAAGACCAACCTGACCAACATGGTGAAAACCTGT
CTCTATTAAAAATACAAAAATTAGCTGGGCGTGGTGGCACATGCCTGTAATCCCAGCTAC
TCGGGAGGCTGAGGCAGGAGAATCGCTTGAACGCGGGAGGCGGAGGTTGCAGTGAGCCAA
AATCACGCCACTGCACTCCAGCCTGGGCAACAGAACGAGACTGTCTTAAAAAATAAAAAA
AAAAATTGTAGGGACACAGTTTCACTATGTTGCCCAGGCCAGTCTTCAACTCCTGGGCTT
AAGCAATCCTCCTGTCTTTACCTCCCAAAGTGCTGGGATTACAGGCATGAGCCACCACAC
CCAGCCTAACATGTTTTTAATAACCAAAAGAAAATAAACATCTCCATAGCCTTGTGACAC
ATCCTTTTTTAACCTGAAATTGGTAGAGTAGGTTTCTGATTCATAGAACCCAAACAAACA
TTCCTCCCTAAAGCAGGCAGAGGCTCTTTGGGAGAGTTTACTTTCAAAACAGTGTCCCTG
CAAGTCCCAAGTGACAAGTTCCCCTTTCCTGGTCTGAAGCATTCTGAGGAGAGGCAAAGA
GGTTAAGGCTTAGCTGCAGGAACACGCTGTCCCCACGACAACCCCTTCTCAGCCTCGGAA
CTGCTGTTATCAGAGTTGTGTTGTCTCTTGAAGGTCCGGACAAAGGGTGAAGCCAGGACT
CCTGAGTCTAAAGGGCAGGTCGGGGCCTGGGAGAGAAGGGGAAGCTGGCCTGGGGCAGAG
ATATGTTTTCCATTTCCCCTGGGGTCCCGCGCAGGACAGCTGCTGTCCATAGCCAGTTCA
GCCAACCGTGGGAGGAATCACATTCACTCGACAGGCAGGCAGTGGCGGCACTGGGATTTG
AACATGGGGCTGATGGGCTCCAGGCGTGGCACCTGTGCCACTACAGTGCGGGGAAGCTCT
GACTGCTGCAGCCTCCGTTGTCGCCACATCTGCCCTCGAATTTCCCTTCCAGCTGGTTCT
GCAATCAGCAGCCCCTCCAGACATCCCTGGGAGGCTCCAAGGAGCTGACTCCTGATGAGG
AAAAGGATCAGCCGCAGACTCACTCCTCCTCCAGCCACTTCCAGACCCACGGGAGGCGTG
GGTGTGACCCAGACTACCTGGGAGCATCTGCTTTTGTCTTTATCCAGGGCAGGACCCTCT
GAAGGAGGAGCCCTCAGAGAAGAAGGGAAAAGCCAAAAGGAATTAAAAGCCAATTTCCAA
ATGGAAATAAATAAGCAGTCATAATTGGCCACATTGGTGAAATTGGGCACTAAGGGCCAG
GCAATGGGCTGTGGGATAATGTCACTTGAGGCTTACGGCCACGCTCAGAGGAAGGTGCTG
AGGTCCAGGGAGGTTCAGGCAGGTGACATGACTCACCCAGAGCCACTGGCTGGAGAGTGG
CAGGGCTAGCTTGGAGCCCAGGTGGTGGACTTCATAGGTGCAGCCGTGACTGCTGTCATC
CCTCCCATGGGGAGTTGTTGCAGAGAGTGAGACACAGCGCCCTAAGCTATTTCTCCATCT
GGTGTGCCTGGATGCCTCTGCCCACCCAGGACCCTCCTCTCGGGTGGCCCACCACTGCCC
TTCCATCACAGTTCATACCTTCTCTCGTGGACCCACAGGGGTGTCCACTGGACCAGGACC
CCAGGGAGGATCCCAGTCCTGGCCCCACCACTCTCTGGCTGGTGACACGGGGGAAGTCAA
TTCTTTCCAAGCCTCAGCTTTCTCACCTGTACAATGGGAGTTTGTGCTAGACAAGAAGTT
TTCAGGACGGACACAGTGGCTCACGCCTGTAATCCCAACACTTGGGGAGGCCGAGGCGGG
TGGGTCACTTGAGGTCAGGAGTTCGAGACCAGCCTGGCCAACATGGTGAAACCTCATCTC
TACTAAAAATATAAAAATTAGCCAGATTGTCATAGCGCATGCCTGTAGTCCCAGTTACTC
GGGAGACTGAAGCCAGGAGAATCACTTGAACCGGGGAGGTGGAGGTTGCAGTGGGCCAAG
ATCTCACCACTGTACTCCAGCCCGGGTGACAGAGAGAGACTGTCTCAAAAAAAAAAAAAA
AAAAAAAAGTTTTCAAACTGCTGACTGCACCTGTTTGTAGGCCCTGAGCTCAACTGAGTG
AGTCACACAGGTATTCACTGACGTGATTCTGCCTCCAAGGCCACATTTTCTCCAGTGCAC

FIG. 9BB

CTCTGTCCTTCAGCAAGTGACCTGAGGCTGGGACTGCCACATGCTGCCTCCCATCAGCAC
CTTACCCAGACCTACTGCTGGCTACAACGTGCTTAATGATTGTCAGGTGGCTCACATACC
CTGTTCTGTTCGGCTTCACAGTGTCTGCCAGCCCGTGGAGTATGGCACAGTGGCTACTAG
CCAGGGTCAGGCAGTGCGACTCCACCTCTCCAAGCGCCCCAGTGCAGCGTCTGATCATAG
GGAATAACTCTACCTGCTTCACAGGACTATTCTGTGAATACTAATTAGGATAACATATGT
GAAGGTCTTGGCGTTGTGAGCACATGAGCCCAAGGTCAGCTCCCTAAAATGATGAAGTTC
ATATCACAAGAGGCCCCTAGAGGTCAGGACAGCCTTTCGGTACCTTTCTATGGCAAACAA
GCGGCTGGTTCTCTGCCACCTATTTTCTCCCCTTCATTGGGCAAGACTGAGCTGGCAGAA
TAATGGCCACATCAGTATTTACTCTCTACTTTCTGGCTTCCCTAGATTGGTGCCAGCCAT
TTGTCCCCCCATCCAAGACAACCCTGATCCCCATCCCCAGAAGGAAAACACCTCACCTCT
CTCACAATTTGAGAATGGCTGTCAACTCGAGCACATTATTAGATTTAATTGTATCTAATA
CTTGAATACCTAATATATTACTTTCTCTCTCTCTCTCTTTTTTTTTTTTTTTTTGAGAT
GGAGTTTCATTCTTATTCCCCAGGCTGGAGTGCAATGGCGTGGTCTCGGCTCACTGCAAA
CTCCGCCTCCCGGCTTCAAGCGATTCTCCTGCCTCAGCCTCCCGACTTGCTGGGATTACA
GGCTCTCGCCACTACACCTGGCTAATTTCTGTATTTTTAGTAGAGACGGGGTTTCACCAT
GTTGGTCAGGCTGGTCTCGAACTCCTGGCTTCAGGTGATCCACCTGCCTCGACCTCCCAA
AGTGCTGGCACTATAGGCGTGAGCCACCGCACCTGGCCCCAATATATTACTTTCAAGGAC
AAAAACTGCAATTACTTTTGCACCAACCTAATATTTAAGGTAGGACACCGTGAAGCCCAG
TGAGATCTCTGTGGTGGACAAACAGCGTGGCTGCTAGGCTGTGAGCCCTCCCGCCTGTCT
GCTCTCCATGCTGTGCGCCACTCCTGAGAGCTGGGTCAGCAGTCGCACTGTTGGCTTTGC
TCTGACCTCGAGTCTATTTCTTTTCCATGTGTGTGTGCAGCCGCTGCCTGGAGTGGAAAT
CTCCACTGAGGGACAGACCTTCTTTCAAGGCTCACATCAGGCAGGATCCCACGGGAAAGG
GGGCTGGCTGAGTCAGGAGGGTTCTCTGCCTGAGTTCCCGTGTGACATTGGGCAAATCAC
TCAACGCTCAGAGCTGCGCATTTTTATCTCCATCTGCTTGGAGCAGGAATTGCAAAGAGT
TTCAGCTCAGGTTCCAACGCCAAGGTGGGAGATATTGGTTGCTTTGGGTATAGTGTTGAG
ATAGATTCTGAGGCTGTGTATGGGCTCACTAGGAAAGGGTGCTGTGTCTGCCATGAAGTG
GGAAATCGGTGGGGGAAGAAAAAAGAAACCCGGCTGGGCACGGTGGCTCACACCTGTAAT
CCCAACACTTTGGGAGGCCGGGGCAGGAGGATCACCTGAGGTTAGGAGTTTGAGACCAGC
CTGGCCAACATGGCAAAAACTTGTCTCTACTAAAAATACAAAAATTAGCCAGGCATGGTG
GCGCATGCCTGTAATCCCAGCTACCTGGGAGGCTGAAACAGGAGAATCACTTGAACCCAG
GAGGCAGAGATTGCAGTGAGCCAAGATCATGCCACTGCATTCCAGCCTGGGTGACAGAGC
GAGACCCTGTCTCAAAAATAAAACCCAAAAAACAAAACAAAACAAACAAAAAAACCCCAT
GGTGCTGGCCGGGTGCGGTGGCTCACGCCTGTAATCCCAGCCTTTTGGGAGGCTGAGGCA
GGAGGATCACTTGAGCCCTAGAGTTCAAGACCAGCTTGAGCAACATGGCAAAACCCTGAC
TCTACTAAAAATACCAAAAAAAAAAAAAAAATGCTGGACGTGGTGATGTGTGACTGTGGT
CCCAGCTACTCAGGAGGCTGAGGCAAGAAGATTGCTGGAGCCTAGGCCTGTCTGGCTAAC
TTGGCTCTACCTTGGCTCAGAGCCCCCTCTTCCTTTTTTTTTTTTTTTTTGAGATGGAGT
CTCGCCCTGTCGCCCAGGCTGGAGGGCAGTGGTGTGATCTCGGCTCTCCGCAACCTCCGC
CTCCCGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGGCACG
CACCACGACACTGGGCTAATTTTTTGTATCTTTAGTAGAGATGGGGTTTCCTCATGTTGG
CCAGGCTGGTCTCGAACTCCTGACCTTGTGATCCACCCGCCTTGGCCTCCCAAAGTGCTG
GGACTACAGGCATGAGCCACTGTGCCTGCCGGGTGGGTTTCTTATGGCGAATGATCCCAC
ACCACTTTTCAGTGCACGTAGTTACATGGAGTAGAACACAGACAGTCACACCTCCACGTT
CTTTTGGCCACCATGACTGGTTCAACCAAGGAATCTGCTCCAAGCTAGGTGAAGGAAAAT
CAGCCCTAAGGCCCCCCGTCGCCACGCACCTCACTGTATCCAGCTATACCTAAAGCCAAA
CCGAATCCCAGACATCTAAATTTTATGAGCCAGTAAATTCCCTTCTTTGCTTAAGCCAGT

FIG. 9CC

ATAAATCAGGGTCCCATCCCTTGTAATGCTGAGTCCCAAGGCCCAGACTCTGGGCCTTTC
GTTTTTCCATTCAGGCCCCAGAATGAAGACCAAGGAAGGGTTTATTAACATGACAGTGAA
CATCTAGGGCCTTATATACATTTTTCTTCAATTCAGCCAAGACAAGAGGCCTAGAATACA
GAGAAAGGACACCCATTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTTT
GAGACGGAGTCACGCTCTGTTGCCCAGAGTCACGCTCTGTTGCTGGAGTGCAGTGGCGCA
ATCTCGGCTCACCGCAATCTCCGTCTCCCGGGTTCAAGCAATTCTCCTGCTTCAGCCTCC
CAAGTAGCTGGGACTACAGGTGCCTGCCACTACACCCAGCTAAATTTTGTATTTTTAGTA
GAGATGGGGTTTCGCCTGTTGCTCAGGCTGGTCTCGAATTCCTGACCTCAGGTGATCCAC
CTGCCCCGACCTCTGAAAGTGCTGGGATTACAGGCGTGAGTCACCACGCCCAGCCTAGGA
CACCCATTTCTTTGTTTGTTTTGTTTGTTTTTTGTTGTTGTTTGTTGTTTTTTTGAGACG
GCGTCTCACTCTGTTGCCTAGGCTGGAGTGCGGTGGTGCCATCTCAGCTCACTGCAACCT
CTGCTGGGTTCAAGCGATTCTCCCTCCTCAGCCTCCCAAGTAGCTGGGACTACAGGCGTG
TGCCACCATGCCCAGCTAATTTTTGTATTTTTTGTAGCAATGGGGTTTCACCATGTTGGC
CAGGCTGGTCTCTAACTCCTGGCCTCAAGTGATCCACTGCCTTAGTCTCCCAAAGTGCTG
GGATTACAGGCGTGAGTCACCGCGACCAGCCTAGGACACCTATTTCTTCAAACATAGGAA
GAAACATCTTATCTGCATGATCCCTCCTGGGGAGCTATCTTACGGTCTTATGTGATAAGG
TGACCTCTCCTTTGGGTGAGTGGAGTAAAAAAGCGGGCGAGGTATCTGGAATATGCTTCT
ATCCCTCCTAACCTCCCCTACAAACAAAGCTTTCCTGAATGCCTTGTCCTTAGCTTCCTG
GACTCTGAACCTAGCTTGGCTAAATTTTCTTTTTAAAGCATCAGCATAAATCATGAATAC
CTTGGGAAGGGAACATTAACCATCAGCCGGCAAAGTTAAAATTCCCCTCCAGCCCACTTA
AATGGACTGAAACCTCCACCCCATCCCCAAACGAGCCTCCCTGGCCTTGTCCTTGAACAT
TTCAAAATCGGGTTTCTGCTTTAAGTTCTTTAAACTACTTTTTTTTTTTTTTTTTTTTTT
TTTGAGAGGGAGTCTCGCTCTGTTACCCAGGCTGGAGTGCAATGGCACGATCTTGGCTCA
CTGCAACCTCCACCTCCTGGGTTCAAGTGATTCTCCTGCCTCAACCTCCCAAGTAGCTGT
GATTACAGGCACCCGCCACAACGCCCAGCTAATTTTTGTATTTTCAGTAGAGACGGGGTT
TCACCATGTTGGTCAGGCTGGTCTCAAATTCCTGACCTCGTGATCCGCCTGCCTCGGCCT
CCCAAAGTGCTGGGATTACAGGCGTGAGCCACCGCGCCCGGCCGCTGCTTTAAGTTCTTA
ACACGTCCTCACCGCGGCTCAGCTCACTGTACGGCCCCTGCATAGAGAGGGGAGGGCAGG
GGCCATGATACTGAACTCACAGCTCTGGGCATTTCTGAAGTCTGGCCCTTGAAGCTTTTC
CTAGAGCAAATTGTTTTCTTCTCCCCTTCAGGAAACTGAAAATTCACACAGCAGCCGTGG
GAGTCAGAGTAGCAAAGGCTTTGAGATCACATAGACCTGGGACACGTGCTTGCTTTGTGA
TTACGGGTAAGTTCCGTAGCCTCTCTGAGCTTCCATTTCTCTTTCTGTGGAAAGGGGATA
CTAATACTGCCCACTGTGAGGGCTGTTTCTGAGATTCCATGCTGCTGTGACTAGCATCTG
CCTGACTAGCAGAGGATAGTTACAGTGTCAGCGTCCATGGCCCTCTCATGAGACTGGGGC
AGGGGGTGGGAAGGGTGTTTGGGACACCCTGGGAACCTTAGCATCATTCTGCCATGGGAG
TATGACCTGCTGTTCCCTGGCTGCCCTCAGTCTGAGGCTTGCTCTGCCAGTCCCGGGAGA
ACTGTCCACTCATCATCCCGGCAGAGACAGATCTCTTTTTCGCTGTGCACAGGTGGGGAA
ACTGACTCTGCCCAGTCACCTGAGTCTGTTGACAGAGGCACCTGGCCATCTGTATCCTGG
TCCTCAGCTCTGAGACCAGCAGGAAAGAGAGGAGGACATTCCTAATGGGGGACACAGTGA
CCTTCCTCCTCCTGCCCCTGATGCTCCCACCACTGTGGTCCCCTGGTGGTGCCAACCACT
CAGACTCCAGAAGCTGAGTCCCCTCTCAGTCCCATGAACAGGCAAAGCTGCTTCCTGCAG
AGGCCCCAACCTTTGCGCCTCCTCCTCAGAGAATCTGATTCTCCCTCCTCAGTGCGGTTC
CTTTCCCACACACACCCACACAACAATCCAGACTCAGAGAATGGAGTGCCTCAAATTAGG
GGAAATGGCCGGGCACAGTGGCTCACACCTGTAATCCCAGCACTTTGGGAGGTCAAGGCG
GGCGGATCACTTGAGGTCAGGAGTTCAAGGCCAGACTGGCCAACATGGCAAAACTCCATC
TCCCCTAAAAATACAAAAATTAGCTGGGCGTGGTGGCGGGTGCCTGTAATCCCAGCTACT

FIG. 9DD

TGGGAGGCTGAGGCGCGAGAATCACTTGAACCTGGATGGCAGAGGTTGCAGTGAGCCAAG
ATCAAGCCACTGCCCTCCAGCCTGGGCAACAGAGCGAGACTCCATCTCAAAAAAAAAAAA
AAATTCAGGAAATGATGAGGCTGCACACACACATGCACACACCACACATGGCTCATGCAT
GCACATGACATGCATTCACATGCACACATGCCCATGCATGTATGTGTTCACATATGCACA
CACAGCACCTGCTCACATGCACACACAGGACAGTCACACACATGCACACACACGCATGCA
CATGCACACTCACATATACATTATACACATATGTACACATGGCGCGCACACACCCATACA
TGCATGCTCACACATGTGCACACATGGTGCACACTCACACACCCACACATGCATGCTCAC
ACATGCACATACACACTCCCCTCTTCACCCAGCCACCCCGCTATTCATTCTGGATCCCCT
TACCCAACCCTGGTTCAGGACCACCTCTCCTGACCCCTAGGCTAGGTCAGGCCACTCTCC
TGACACCCTCATTACTCATAGGCTTTCTCTTCAGCACTTTTACCACGATTGTGACTAATT
ACATGTGTGATCATTTTGGTACCAGGTAATATTAATAGCTCGAAAAATATTACTGGGCTT
TCCTCTTTGGCCTTTCTGGGTAAGTAGCCCTTCCCCTCTCAGGCCTGAGGCACCTGGCTA
CCTGGAAAATATTTGAATTTGTACAGAAGGAATAAAGAGGACCATGGCAGATCTAGTTCC
TGATCATCAACACAGACTTTGCTATGAGACAGTAGGTTTAGAAGTCACCGCTGCGCACTG
ACCCTCTGGGGGCTTGGGAGGAAAGTGCTCTGAGACCACCCTCCAGCAGCTTAGGGGTGG
GGCCCCTGGAGGTGCAGCAAGTTGAGAGGAAGGAAGCCCTGGTGTTTCGCTTTCCTTGGC
CACACTGGTCCCCTCCGGGCCAGGATGGGCTCAATGTGTTCTTGCTCAGGTAGGTGACAC
CTCATTAAGACAAGGGGCAGAGGGACCTGCAGAAGGGTCTGGGAGTAGATGGCTCAGGTA
GGGGTCAGATGCAGTAGAGAAGAGGGGGCTCTGAAAAAAAAAAAAAGGCTGGGCGCAGTG
GCTCATGCCTGTAATCCCAGTACTTTGGGAGGCCAAGGCGGGTGGATCACCTGAGGTCAG
GAGTTCAAGACCAGCCTGGCCAACCTGGCGAAACCCCATCTCTACTAAAAATACAAAAAT
TAGCCGGGCGTGGTGGCAGGCGCCTGTAATCCCAGCTACTCAGGAGGCCGAAGCAAGAGA
ATCACTTGAACCCGGGAGGCGGAGGTTGCAGTGAGCTGAGATCGCACCATTGCACTCCAG
CCTGGGCAACAAGAGCAGAAACTCCATCTCAAAAAAAAAAAAAAAAAAAAAGAAGAGGG
CGCTCTGAGCCAAGGTAGAGCCAAGTCAACCAGGCAGGCGGAGGCCCAGAGCATGAGTTT
TACCTACTGCCGGTTTCGGCCAAAATGCCAGAAAGCCAAGCAGCAATCTTGGGCATCGGA
CTTGGCTAGAAATCCCTCTCCTCCTGGGAAGTCTCGTCATCAACACCCAGACACCCCCAC
CCCCACCCACCCACCCAGTGCCAGCTTAGAGAAAAGCTGGGAGGAGCAGAAGGAAATTTG
AGACCAAGCATTACCTAAAGGCCTAAAGTACTGGATCAGATTAAATTAAATCTAGTTCTT
TTTCCTTGTTGCCCTATGAGTAGGCTTTGTGAGAAATATCAGATCCATTGCAGGAAATAA
AGAAAAGACATGTTCTCTGCAGACCCACATGGCAGGTGAGTAAATGTACAGCATGGATAT
CCGTCACCAGCGGTGCATTCCCCTAGGCAGGCACCACACCGTCCTGTGGAGCATTGTGTT
AGTAGGCGCTCAGTAAACACCCATGAAGTGAGTCAATGTATGATTAAATTCCAACCCTGC
GTGGCAGCAGACAGGTGGCTGGTCTCTGGGACTGGGGAAGAACAAGGCTCTGTATGTAGT
TGGCTTCCTCTGGAAGGACAGGTTTTAAGTCAGATCCGACTGGGTTCAAACCTTGGCTTG
GCCAAGGCAGCTTCTAGCATGGCCTCCAGTGATCCCACCTCCTGGCCTGAGTGTGGGTGG
ACACTTCTGCTATTTATTTATTTATTTGATTTATTTTGAGACAGAGTCTTGCCCTGACAC
CCAGGCTGGAGTGCAGTGGTGTGATCTCCGCTCACTGCAACCTCCACCTCCCGGCTTCAA
GTGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGAACCAAAGGCATGCACCACCATGCCT
GGCTAATTTTTGTATTTTTAGTTGTTTAGGATTTGTTTTAGTTGTATTTTAGTTGTTTAG
GGTTATTTTTAGTTGTATTTTAGTTGTTTAGGGTTTCACCATGTTGGCCAGGCTGATCTC
AAACTCCTGACCTCAAGTGATCCACCCACCTCAGCCTCCCACAGTTCTGGGATTACAGGC
ATGAGCCACCATGCCCAGCCATGGGTAGGCACTTCTAATGAGCAGAATATGGCAAAAGGG
ACAGGATGTCACCTCCAAGATTACGTTATAAAAGACAGTGACTTCCACCTTTCTCTCTCC
CTCTCTCTCACATGAGCACGCGCGCGTGCACGCGCGCGCGCACACACACACACACACACA
CACACACACACATAACTTCTTGGCTTTCTTGCTTTGACACAGCAAGCTGCCATGCTGGAG

FIG. 9EE

ATACCCACATAGAAAAGAATTGAAATCAGCCTCCAGCCACTAATAGATAGATAACTAATA
GCAATAGATAACTAATACAGCCACTCATTAGCTCTGCCCTCAGACCAGTTCTTAACCTGT
ATGTGTGTACCCTCATCTGAAAATGGGCATAATAGCACATCCCCACCATACAGGCTAATT
GTGAGGACCACGAAAATGAATGGATGGGTGGATGGGTAGATGGGTAGATGGATGGAAGGA
TGGTTGGGTGGGTGAATAGATGAATGGGTGGGCGAAGGGATGGATGGATGGATGGATGGA
TAGATGGATGGATGGATGGATGAGTGGGTAGATGGGTGGATGAGTGAGTGGGTGGGGATG
GGTAAATTGGTGGATGGATAGATGGATGGGTGGAAGGAAGAAAAGATGGATGGATGGATG
GATGGATGGATAGGTGGATGAGTAGATGGTTAGGTGGATAGGTGGATGGGTGCGTGGATG
GATGGATGGATGGATGGATGGATGGATGGATGGGTAGGTGGGTGGGTGGGTGATTGGATG
GATGGAAGGATGGATGGGTGGATAGATGGAACCACTGGCTGGAGCCGTGTGAATATCACA
GAATCAGGAAGTGAAGCCCAATCAGTAAGTCCCGATGGGGCTGTGAATAACCCTCACTGA
GCAGCTGTCACAAGGCTAAGCACCTGGCTGTCCCCCTAGGAAAGCCCCTCACCAAGGTGA
AGCTCTACCTCCGTCCTCACTTCACCCGCAGCCCGTTCCTCCTGGGGCTGCAAAGGACCA
GTGCTTAGAGCTACCTCTGGTCAGAAGCCAGCAGAGTCCTACAGTAAAAGGGGTTGGGGC
CCCCTGCTGAGCTCAGTACTGAAGAGGAGGCATGGCCAGGCAGCCCAGCACCCTCTGCCC
TCCACCCAGCAACCCCCAGGCTAGATTCTGCCATCCTTTTCTCATTGATTATGTTCCCCA
TGAGGCTGCTCTTGCCCAAAAGCTGGCCCAGCTTGACACCACAGAGACAAACCAACCAAC
AGCCACAGCATCTGATAGCCCCAGTAACTGACTCTTGTGGGAAGGCCGCGGCCAGCTGGC
CTGAGTCCCACAGCCTGACCATGGCTCCGTCAGTGGCCAGTCCTGGGGGCAACAGGGACA
CAGGGGAAGGGTCAGGCCCCAGCTCTCATGGTGTAACAGATACCAGCTCCAAGTCAGGAG
AATGGACTTTCCACCTGCATGCACGTCACAGTGCCCAGAACCCTAACAGACATGCATCAG
ACTTGACACCTTCCCCACCCACCACCCCAGGTTTGGCTGCCCATAGAGGCGCACACCTGT
CCTCCCATCTCCTCCTGGGCTGGAGCCATGTGAGCAGAAGGGGATGTGAAGACAGATCCT
TGATGTCCACAGGTGCGGGGACTGCTTGCCAACCCATGGCAACTCACCTGTAGCGCATGG
AGATTTGGGGGTAAACCCAGTGATGCTGAGTATGTGGGCTGCCCAAGCTGGGTGGCAACC
AACCCCAGCATTGAATGTGCTGAGAGCTGGACCGGTGGATGTCCCCACTGCCCTGAGGCA
GGTCCAGGAGAAGGCTCCTACCTGCTGTGCAGAGGGCAAGGTAAGTCTTGTCCTTGATCT
ACAGCCAGAAGACAGCAGGGCTGCTTCTGTCTGCGTCCCAGCCTCCACTCTTCTCTAGAT
ACCATCACCACCATGACAACTGCAGTTAACACTTAGTGAAGACCCCTAGGTGCCACGCGC
CCATGCAATACCCACAGACCCCTCTGAGGTAGGCCCTGTAATGGTCCCTACGTTAGGGAG
GGGCGGTCCCAGGCCCAGCTGGTCAGTGAGGGAGGTAGGATTTGAACCCAGGCAGCCTGG
CTTTGGGGCATTGCTCTCTGCCACGTGGCCGGTTCCTACACCCTTGCCAGCTACCCCCTG
CAAAGGTGGCCAGCCTGGCTTTGTCCTTCAGGATCCTCTGATCTCTCTCAGGGGCCTCCA
ACCCACCCACTGGCTCTCCCTGCTGACAAAGCAACTATTTCCTGGCCCCAAAGCCCCAGT
CTCTGGAAATGACCCTCCTTCCTTCTCCAGCTCATGGCTGTCAGAGGCTCCTAACTGCAC
CCACCCCCGATCAGCCAAAGCCAATTACTCCACGTCCAAGACACAGGCGTGTTAAAATGT
AAACGGCCATTCATCATCTGGCAGCGTGACCGTTTGCCCCTATCAGGCCCCAGTCCGGCC
TCACCACGCCTCCATGCTCTCCTCAGCGTCAAAGAAACAGCCTTGTCCTGCCAGGGCCTT
CGCCAGGCCCGGCCTGGGAAGTCAGGGCTCTCTGACCCAATGGAGCGAATCGTTGCGAGC
ATTTATTTAATAGCATTATCTTGATGATGAATAAATCACACCTTCATGAACCATTTTTCC
ATTTGTAGCCCCAAGTCAAGACTCCCAAAATGTTACCAGATGTCAGGCATGAAATATACA
CCCCTGGCAAGCTCTGCCATGCACAGGAGTCATGCTGCTTTCAATCCACGGGAGAGCCGG
ACACGAGCGTTCCAAGGCAGGAGCAGAACTCCATGTTGGCCATTATAAAGACAAGATTCC
TTTTCCCCCGCTTTTTATAGCCTCTCTGGGTAAGATGTGTCTGGAAGGAGGTGTGGGCCA
GGAAAGAGCATATGTCTGATGCCTGGGATTCCAGGACAGAAAGTACAGCCGACTCCAAGC
TCTTGGGATGGGATTGGAGGGTCTCAAAACCTTGCCAGCTTTGGAGTCAGAGAGAAAAGA

FIG. 9FF

GTCCCAACCCCAGATTTATCATTTGCTAACAAATGTGACCTTGGGCAAATCAGCTCACCT
CTCTGGCCCTCAACAGAGATAATCCTGGGACCTATTTCACAGTCATGGAGAGGATTAAAT
GGGAAGAGGAATAAAAGGAGTTTGGAGAAGTGCCCAGGACATAGTATGCACTGAGCAAAT
TCCGTAGTAAGAGGAGTATTAGTAATAGCTACTATTGATTAGGTGGTGTTGTGAGTTGAA
CAGTGTTCCCCCAAAATTCATGTCCACCCAGAGACACAGAATGTGACCATTTGTGGAAAT
AGGGTCTTTGCAAATGTAATTAGTTAAGATGAGGTCATACTAGATTAGGGTAGGCCCTAA
GTCTAATGACTGGTGTCCTTATTAGAAGAGGATAGGGGCTGGGCACAGTGGTTCACACTT
GTAATCCCAGGGCTTTAGGAGGCTGAGACAGGAGGATGGCTTGAGCCCAGAAGTTCAAGA
CCAGCCTGGACAACATACTGAAACCCATCCAGTCTCTAAAAAAGAAACTAAAAGCCAGGT
GCAGTGGCTTACATCTGTAATCCTAGAACTTTGGGAGGCTGAGACAGGAGGATCACTTGA
GGCCAGGAGTTCAAGACCGGCCTGGGCAACATAGCAAGACCCCATCTCTATTAAAAAATA
AATAAATAATAAATAAAATTAAACTTAAAAAATTTAAAAATTAGCCAGCCATGGTGGGAG
GATTGCTTGAGCCCAGGAGTTTGAGGCTGCAGTGAGCTATGATCAGGCCACTGCACTCCA
GCTTGAGCAACAGAGTGAGATCCTGTCTAAAACAAGATGGGACACACAGGAAGTGGTGGT
GCAAAGATGGTGCAGCCGCAAGCTGAGGAACAACAAGGATCCCTGACCACCAGCAGAAGC
TAAGAGGCAAGAAAGGATTCTTCCTTAGAGTCTTCAGAGGGAAAGTGGCCCTGCTGACAC
CCTGATTTCAAACTTCTAGCATCCAGAACTGTGAAAGAACGAGTTTCTGTTGTTTGAAGC
CACCTAGTTGGAGGTGCTTCATTACAGCAGTCCTAGGAAGCTAATACAGGTGGTTACCAT
GCACTAGGTTCTCTGCATTATAAATGCATCATATGTGTGAATTCACCTAAATCCTCACAA
CAACTGTAAGAGGTTACTATACCATGTTACAGAGAGAGTGATCAAGACTCAGAGAAGTTA
AGGGACTCATAGCTGGATCTAGATTTGAATTTGGTCTATCTGGTCTAAAGCCCACTTTTA
AGGACCAACTGTGTATGCCAAGTGCTAGAGCCACTTCCTTGCTCAGTCCTCACCGACCAC
ACTGTGCTATCTTTATTCACATTTTGCAGTTGAGGAAACAGGTTCAGGCAGGTCTGTCCA
AGGCCACCCTATTTAGGGTCTGACAAAGCCAGGTTCATCTGACTCCAATGCCAACGCCCA
TGCTGTTGACCAGACCATCCCTGCCAACTTCCCAATATGAATGCTTTGAGTGGCTCTCGG
CCCCCGGGCTGTGGAACACCAGCACACCAGTGCCTGGAGGGCAGCAGCTGTCCAGCAAAT
GTCTGCTCATTCATTTGTTCACGCATTCAGGGCAAGTCGAACGGCAGACGGGGCAGGAGA
TCCAGGGCCAGCATCGATGGTGCAGGGAGCCCTCTGGCCCCTTAAATATCCTCAGACAAT
CCCAGAAATCATTCCTGGGTCTACCTTATGTGGGTTTTCTAGAATAGCTACTGCTGAACT
GTAGGGTAGTGAGGGAGAGACACAAATACAGGCAAAACCACACAACAGCGAAGATTCCAT
AAGGGCAGGAGTGTTTTTCCACCAGGAAACAAGAACCAGTTCATCTGAGTTCCTTCGCCT
TTTGTCCCAAGACACAAAAATGTCAAAAATGTGCAAGGGCTCTGGCCACAGATGGATACT
GTGTCTCACCCCGACGGGCTGCTTCCTGCATGGGGCTGAAGGTCAGGGTGAAGGTTGCTG
CCCTGAGAGTCAGGGGAAGTTGGTCTGCCTCCTGCTGTGTCACGTACTTGCCATGGTGTG
TGGGATGAGGCCCATCATCTCCCAGAATTAAGCTGTAGCTGACTATAAAACCACAGGTGA
GGGCTGGGTGTGGGGGCTCATGCCTGTAATCCCAGAATTTTGGGATGCTAAGGCAGGAGG
TTCGCTGGAGCCCAAGAGTTCAAGACCATCCTGGGCAACATAGAGAGACCCCGTCTCTAC
TAAAAATACAAAAATTAGCCAGACATGGTGGTGCATGCCTGTGGTCCCAGCTACTCTGGA
GGCTGAGGTAGGAGGATCACTTGAGCCCAGGAGGTCAAGGCTGCAGTGAGCCGTGATCAT
GCCACTGTACTCCAGCTGGGGCCACAGAGCAATACTCAGTCTCAAAACAAAATAAAAAAA
CCCACAGGTGAGGTCACATCAGGCTTTTCCCCTTTATTCTCCCTAAGGGCTCCACAACAT
CAGAAATGGGTTTCTCTATCAGTGCATCCTCCAGATTCTACTTTTTTTTTTTTTTTTTT
TTAGTAGAGGTCTTGCTTATACCCAGGCTGGTTTCAAACTCCTGGGCTCAAGCAATCCTC
CTGCCTCATTCTCCCAAAGTGCTAGGATTACAGGTGTGAGCCACCCACACCCAGCCCAGA
TACTGGGCCCTGTCCGTCAATCCATTTGCAGTCACCAAGCACCAGCTGCGTGCACCGCAT
TGTGCCAATGTCTGGAAGGATGCTCACAACTATCAACACAGATAACTAATAATATCAACA

FIG. 9GG

ATACCACAGTGTAAATGCAAAGCAATATGTGCCTGGTCTCATTTAATTCTCACATCAAAC
CCTTGGGATACATATCATTAGCACCCTCATTTGCTAGAGAAAACTCAGTTCTGAGGGTGG
ATGATTTGCCAAGGCCCTGGGAATTCGGACTAACTCCCTTCATAGGTGGCTGCAAGTGCC
TGTGGCCCAGACATTCCCATAGATAGGTCATTTTCTCACACCAGCTTATATTTCTTGTGC
CAGACACAGGGTCCAAACCCATTTGCATTACGTCTCTGAGACTTCACAAGACCTTCCTGT
GAATTTGTTACCATTATTATTATTATTTTCTTGTTTTACTTTTTTTTTTTTTTTTTTTTT
TAGACCGAGTTCTGCTCTTGTTGCCCAGGCCTGGGTGCAGTGGCGCAATCTCGGCTCAAT
GCAACCTCCACCTCCCGGGTTCGAGCGATTCTTCTGCCTCAGCCTCCTGAGTAGCTGGGA
TGACAGACACACACCACCACACCTGGCTAATTTTTGTATTTTTAGTAAAAATGGGTTTTC
ACCATGTTGGTTAGGCTGGTCTCAAACGCCTGACCTCAGGTGATCCACCTGCCTCGGCCT
CCCAAAGTGCTGGGATTACAGGCGTGAGCCACCGCGCCTGGCCTTTTTTTTTTTTTTTTG
AGACAAGATCTCACTCTGTCACCCAGGCTGGAGTGCAGTGGGGCGATCTCAGCTCACTGC
AACCTCTGCCTCCCTGGTTCAAGTGATTCTCCTGCCTCAGCCTCTCAAGTACCTGGAATT
ACAGGCACGTGCCACCACGCCCAGCTAATTTTTGTATTTTTAGTAGAGACGGGGTTTCAC
CATGTTGGCCAGGCTTGTCTTGAACTCCTAACCTCAACTGATGCACCTGTCCCGACCTCC
CAAAGTGCTGGGATTATAGGCATGAGCCACCGCGCCTGGCCTTATTATTCGTCTTCTTAG
TCTGCTTTCAGATGAGGACACGGAGCCACAGGAGTTACAAGGGTGGAGGTGCTGGGAAGT
CAGGACCAAAATCAGCCTCCTGACTCCCCATCTCATTTTCTCAATCATCATGGGTTTTGC
CCCCCAAGAAGAGAACCAGCCACCATGGGTGCTAAACCGGTGGCTGATATAGCAAAGTGT
GTTGGAGCAGAGATCCCAGCGGGCTTCCTAGAGGAAGATCACAAAAAATGGGCAGAGCCC
ACAAGGCACAGTACAGGTTTCCTCTCTCCAGTCCACATAAGGGCATTCACCAGGAACCTG
GGGGCTGGGTGGCCTTGGCCCAACCCTCTGAAACTCACCCTGTGGCTCCTCACTCACCAG
ATGGACACAGCAGGAATCTGTCCCACCTGGCTCAGGGAGGGCCTACCCCCACCTCCCACC
CCACCCCACAGGCCTGTTTGCATGCCAGGCCAGAGTTGGCCACATGCCCACATATCTCTC
CTCGTTCTGCAGGCTCCGGGAAGGAAAGTCCAAGGCCAAGGTTATCATGGGGTTCACATA
CCTTAAGGGGTGGGTGGAGGGGTTGGCTCACAAGCTACAGGTTATTCAATGCAGTGCTAT
TCGTGATCACAAAAGATCGGAACTGATCTCACGTCCATCATCAGGGGACTGGACTAAGAT
ATTTTGGCACAACCACATACGACTCAAGTGTCAAGGGAGGAAGAGTGGGGGAGTCTTGAA
TAAATAACAAAAGCTGGCGTTGACACAGGACTTTGCACATGGTGGAGGCTCCTTGCAAGT
GCTTTGCATGTTATTAACTCATTCAATCCTTACATCACCCCAGGAGGAGGAACCATTATT
ATCTGTTTAAAATGCCTGTAATCCCAGCACTTTGGGAGGCCCAGGTGGGAGGATCACTTG
AGTTCAGGAGTTCAAGACCAGCCTGGGCAACAAAGTGAGACTTCATCTCTACAAAAAATT
CAAAAAATTAGCCAAGCCTGGTGATCCACACCTGTAGTACTAGCTATTCAGGAAGCCAAG
GTGGGAGGATTGCTTGAGCCCAGGAATTCGAGGCTGCAGTGAGCCAGGATTGCACCACTA
CACTCCAGCCTGGGTGACAAAGCAAGATCCTGTCTCAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAATATATATATATATACACACACACACACAGAGAGAGAGAGATACACATATA
ATATTTTAAAATATATATACCTCAAAAAATATATATATAATATTTAAAAATATATAAAAT
GAGGGTGCCACTTGGTTGAGTTTATGGTTAAAAAAAAGAATAAAATTTAAAAAAGAGGCA
CCAAGAAGTGAAGTTTCTTGCCCCAGGTTCATGGCCAACAAACAGTGGACTGGGCCGGGC
ACGGTGGCTCACACCTGTAATCCCAGCAATTTGGGAGGCTGAGGTGGGAGGATCGCTTGA
GTTCAGGAGTTCGAGACCAGCCTGGGCAACATGGCAAGATCCCATCTCCACTGGTGCAGT
GGCTCACGCCTGTAATCCCAGCACTTTGGGAGGCTGAGGTGGGCAGATCACAAGGTCAGG
AGATCGAGACCATTCTGGCAAACATGGTGAAACCCTGTCTCTACTAAAAATACAAAAAAA
AAAAAAAAAAATTAGCCGGGCGTGGTGGCGCTCACCTGTAGTCCTAGCTACTCGGGAGGC
TGAGGCAGGAGAATCACTTGAACCTGGGAGGCAGAGGTTGCAGTGAGCCGAGATCGCGCC
ACTGCACTCGGGCCTGGGCAATAGAGTGAGACTCTGTCTCAAAAAAAAAAAAACCGTCTC

FIG. 9HH

TACTAAAAAACTGCAAAAATTAGCCAGGCATGGCGGCATACACCTGTAGTCCCAGCTACC
CAGGAGGCTGAAGTGGGAGGATCACCCGAGCTCAGGAGGTTGAGGCTGCAGTGAGCCAAG
ATCACACCACTGCGCTCCAGCCTGGCAACCAGAGTAAGATCCTGTCTCAAAACAAACAGA
CAAACAAACAGTAGACCTGGAATTTGGTGCAAGCAGCAGGGCCAGATCCATGCTTGGTCC
TCTCCTCCCAGCATCTCTGTTTTGTCCTGGGTCCCTCTGCCAGGAGCTCCCTGGAACCCG
GGAAGGAAGAGAAGCATGCAGACAAGCGTCAGCACCCCCACCCTCCGCTGGCCTTGGGGA
GCAGGTGTCATTAGACGAGGCTCAACTGAAGCCTGCATCTGAAACAGATTCTCATAACTC
AGGCGCTGTGGTAGCCAACTTCTCTCTACAGTCAATTACGGCCAGCGGGGCCCACTGATT
ATTTTTATAGCCTTTCCTGGAGTCATGACAAGGAAAACTAAATGATCCACAGGACCCCTT
TCATCACTAACAGCCGGGTTTCACGGTTGGGGGTGGAGGAAGGAAAGAAAAATCACTTTT
TTCCCCACTTTGAGTTAATCAACAGAACTCAAGTCTGGGCAGCCAATATGTTGGTGTTGA
GAAAAGCTGTTCTCAAGCAGAACTAATTGGCAACAGAAATGGAATTTTCTTCCCCACCTC
CCTAAAAAACATAAACATGCTTTATCCCAGAGAATTACCCTTCAGAATAGGTATTGCAGA
CGTGTCGTGTGCAGCCGCCTGTGCGAGGCTGGTAATCTCACGCCGACCTGGCCAAAGGCT
GCCTGTGCTGGTTACAGCTCAACCAGAGCAGCCTCTTACGCAATACAATGGTCATGAAGG
TCAGTGGCCCAAACCAGCCCAGCCAGACCAGAGTGGACACTTGCTTTCCTGATGCCCAGC
ACCTATCTCCTGCTCCTACGAACAGCCTTTGGCTTTTGTTGGGTCGGGGGGTGGGAGGGC
ACCCTGATTTGCAGGTACAAGTGTGAGTGGCATTGATACCCCCTCAACTCCAGAGATGAG
CTCTGACAGGCGTAAGCCAAAGAACATATTCCGGGGAAATTTCAAGAAGGGGCATATGAC
CTAACAAGAAACAATAGCTGGCACAGTGGCTCACACCTTAATCCCAGGACTTTGGGGGGC
TAAGGCGGGTGAATCTATTTCAGCTCAGGAGTTTGAGACCAGCCTGATCAACAAAGTGAG
ACCCCAGTCTCTGCAAAAAATAAAAACTGGCTGGGCGTGGTGGTGCATGCCTGTAGTCCC
AGCTACTTGGGAGGCTGAGATGGGAGGATCTGCTTGAGCCCAGGAGGTGGAGGCTGCAGT
GAGCCAAGATTGCACCACTGCACTCCAGCCTGGGCGACAAAGCCAAACTCTGTCTCAAAA
AAAAAAAAAAAAAAGAAAAGAAAAGAAAAGAAACAATAAGGCACTAGAAAAAAAAAAACA
TATAATGAGGCTTCTGGAAAAGATAGCTCTTTTTATTTTAGAGAAATTGAGGTTCAAAGA
CGTGATGTAACTGCTCAGAGGTATACAGTGAGGTGGTAGGGGATCCAGGGTTTGAACCCA
AGTCTGTAGGACTGAGGAGTTTGCAACCCTTCACTGCAGGCGCTACTGAAAGGCAGCATA
AACCTTGGACGAAGCCAGAAGAGCTGGATTCAAACCCAGTTCTGCCATTTACTCCCTGTG
TAATTTCAGGCAAGTCACTTAACCTCTCTGTTCCTCAGTTTCCATATCTGTAAAGTGGGG
CTTCTAAGGGCACCTCCATTTGCAGGATCTGAGAGGTAAATAATTAACAGCAATATCTGT
AAAGTGCATGCAACAGTGCCTGTCACGGACCAAGGATTCGCCCCTTCCTCACCACACCGT
TCCCCACACGCGTTGAGAACCAGACCAAATAAAAGGAGGTGGAGGGGAGGAAGGAAAAGT
TGATGTTATCAGATCTGTAATCCCTACGCCATGTGTTCCTTTCTGTAGCACAGCTGCCAG
GCTTGCCTCTCCTGCAGGAGAAGCTGTGCCACAAAGATGTGGGACGTCACAAACACGCAG
CCCATTCAAGGCTTTTGGACATTCCAGCCCCGTCCTTGATGTCAGTCAAGATCTAGGGCA
AATTCCACCCATTCAGGTGGCAAAAAGTAAGATGTTTGACAAATGCCATGTGTAGAGGGT
GGCTTGTGAATTGGTACAACCATTAGAAGATAATTCAGCATACGATTTCATATTCCAGCA
ATTCTACTTCCAGGTACAAACTTGAGACACACTCCTGTATGTGTGCAATAGGACAGTACA
AGAACCCTCAAAGCAGAACCGTGTATGTAGCAAACAAAACTGACAAATGGAAACAACCCA
CATGGTCATAGACAGGAAAAATAAATGCTGGTATGCCATGGAATAGTACACAGCAGAGAA
AAGTGAATGAACAAGTGATAAGCAATTATATCAACGAATTTTAGCAATAAAATGATTTAT
AAAAATGTAAGTGCAGGGGCTGGGCACCATGGCTCACACCTGTAATCCCAGCCCTTTGGG
ATGCTAAGGCAGGCTGATTGCTTGAGGCCAGGAGTTTGAGGCCAGCCTGGGCAATATGCA
ACATGGCAAAGCCCCGTCTCTACAAAAACGTAGCCAAGTGTGGTGGTGCACGCCTGTAGT
CCCAGCTACCAGGGAGGCTGAGGTGGGAGGATCACCTGAGCCCAAGAAGTCAAGGCTACA

FIG. 9II

GTGAGCTGAGATTGCACCACTGCACTCCAGCCTGGGTGACAGAGTGAGACCCTGTCTCAA
AATATGTGTGTGTGTGTGTGTCTGCATGTATGTGCCAGAAGACAAGATATATCTTTACGT
AAAGTTCAAACAGCAGTAAAAGTAAATGATATATTATTTTGGCATACATGTAAGTGATAA
AACTTTTTTTTTTTTTGAGACGGAGTTTCGCACTCATCGCCCAGGCTGGAGTGCAGTGGA
GCAATCTTGGCTCACCGCAACCTCTGCCTGCCATGTTCAAGTAATTCTCCTGCCTCGGCC
TCCCTAGTAGCTGGGTTTACAGGCATGCACCACCACACCTGGCTAATTTTATATTTTTAG
TAGAGACGGGGTTTCTCCATGTTGGTCAGGCTGGTCTCGAACTCCTGACCTCAGGTGATC
TGCCCGCCTTGGCCTCCCAAAGTACTGGGATTACAGGCATGAGCCACCGTGCCTGGTGAT
AAAACTATTTTTTTAAGCAAGGGAAATTGAGAAGATGAAAATGTTCTGGAAATGGATGGC
GCTGATAATTGCCCAACATTGTGAATGTGCGTAATGCCGCTGAATTGTACCCTTAAAATG
GCTAAAGTGATAAATTCTATCCACAATTTTTAGAAAGGCAAGGGAAAGCTAAACACAGAA
TTCAAGATAGCAGCTACTACCACAGTGAGAGAGGGAGGGAGGCAAGATGGGAAAAGAGTT
CGGAAGTTGATATAAAATGGTTGTCTGAGTTCCAGCACGCAGGTGGGACCATGGGTTCAC
AGGCATTTATCATTTTATAAATAGCTATAAAGAGATTGTTAGATGGAAGTGTAGGTGGGG
CTGTTCAGGTGCCCTTTCAGTATGTCATTATGGAATTATGAATCATTCAATCCTACTTAC
TTTTTCTTTTTTTTTTTTCTTTGAGACGGAGTCTCACTCCATTGGCCAGGTTGGAGTGCA
GTGGTGAGATCTCAGCTTGCTGCAACCTCCAGCTCCTGGGTTCAAGTGATTCTTGTGCCT
CAGCCTCCCGAGTAGCTGGGATTACAGGTTCATGTCACCACACCTGTCTTATTTTTGTAT
TTTTAGTAGAGACGGGCTGTCTCTACTCCTGTTGGTCAGACTGGTATCAAACTCCTGACT
GCAGGTGATCCACCTGCCTCGGCCTCCCAAAGTACTGGGATTACAGGTGTGAGCCACCAC
ACCTGGTCAATTCTACTTACTTGAGGTCCATTTTTAAAATTCTAGAGGAGGCCGGGTGCA
GTGTCTCACACCTCTAATCTCAGAAACTTTGGGAGGCCAAGGCAGGTGGATCACCTGAAG
TCAGTAGTTCAAGACCAACGTGGCCAACATAGCAAAACCCTGTCTCTACTAAAAATACAA
AAATTAGTTAAGCGTGGTAGTGTGCACCTATAATCCCAGCTACTCGGGAGGCTGAGGCAG
GAGAATCACCTGAACCCGGGAGGCAGAGGTTGCAGTGAGCCGAGATTACACCATTGTACT
CCATCCTGGGCGACAGTGTGAGGCTCCATCTCAAAAAAAAAAATAAATCCCTACCTTCAG
GAAACTCACATTCCAGCAGGGGACACTTAAGAAAATAAGAATATATATGTATGTTAGATG
ATGAGACGTGTGTGGTAAGGAGAAAAATAAACCAGAAAAGGGATGAAGAAGACCAGGGAG
TGAAGGAAGCTGTAATTTTAAATGGAGAGTCAGGATGGCCTCGCTGCAAAGGTGATGTTT
GTGTAAAGACCTGCGCGATATGAACAAGTGGGCCACTTGGATATCTGAAGAATGAGCACC
CAGGCATAGAGAAAAGCGATTGCAAAGGTCCTGGGGCAGGACTGTGCCCGACCTCAAGAA
CAGCAATTGTGGGGAGTGGGAAGGAGGAGAGATAAGGTTAGAGAGGCCTGGGCCCTGCAG
GCCTTGTGGGCCGTGATGAGGACTTTGCCTGTGCTCTGGGCAAGGTGGGACCAGGGCTGG
AGATAGGAGGTGTCCTGAACAGAGAAGGAACTGGATCTAATTTCATTTTAACAGGACCCT
GCTGGCTGCACACGGAGAGTAGACCAGGAGGGAGGCAAGAGGAGAAGCAGAGACACTGGT
GGGGAGGCAACTGCAATAGCCCAGAGAGAGACACCATGGCCGCTGGGACCAGGGTGGAGG
GAGCGGAGGTGACAGAGCTGTCAGCTTCTGGGTGCAGGTTGACAGGGGAGCCAACGGAAT
TTCTTTTCTGTTCCTCTTTGTTTTTGAGACAGCGTCTCATTCTGTCACTCAGGCTGGATT
GCAGTGGCACAAACATGGCTCATTGCAGCTTCAACTTCCTGGGCTCAAGTGAGCCTCCTA
CCTCAGTTTCCCGAGTACCTGGGACCACAGGTGCATGCAACCACACCCAGCTAATTTTTA
AAAATATGTTTGTAGAGACAAAGGTCTTGCTATGTTGACCAGGCTGGTCTTGAACTCCTG
GTCTCAAGCGATCCTCCTGCCTTGGCCTCCCAAAGTGCTGAGATTGTAGGTGTGAGCCAC
CACGTCCAGTGTAGAATTTCTTTTTTGCTGGAAAGTGGGAGAGGCTGGGCTCTATTTAAG
TGTTTAAGGGTCAAGAAAGTTTGAGACCTGGTTATAAAGTAGAGACATGGCCATCCAAAC
TGAGCCCTTCTTGAGAGCTGATGATGGGATAGAATTTTTTTTTTTTTTTTTGAGATGG
AGTCTTGCTCTATCACCCAGTGCAGTGGCGCGATCTCGGCTCACTGCAACCTCCGCCTCC

FIG. 9JJ

CAAGTTCAAGCGATTCTCCTGCCTCAGCCTCCCGAGTAACTGAGATTACAGGAGCCCGCC
ACTGCGCCTGGCTAATTTTTGTATTTTTAGTAGAGACGGGGTTTCACCATCTTGGCCAGG
CTTGTCTTGAACTCCTGACCTCGTGATCCACGTGCCTCGGCCTCCCAAAGTGCTGGGATT
ACAGGCATGAGCCACTGCGCCTGGCCTGATGGGATAAAATTTTTTAAAAAATAGGCTGGG
CACGGTGGCCCACACCTGTAATCCCAGCATTTTGGGAGGCCAAGGTGGGCGGATCACCTG
AGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGCGAAACCCCCGTCTCTACTAAAAAT
ACAGAAATCAGGCATGGTGGCATGTGCCTGTAATCCTAGCTACTCGGGAGGCTGAGGCAG
GAGAATTTCTTGAACCTGGGAGGCAGAGGTTGAAGTGAGCAGGATCACGCCACTGCACTC
TAGCCTGGGTGACAGAACGAGACTCTGTCTCAAAAAAAAAAAAAAAAACCCTCCTCTTCT
AGGACTTCTGTGATGTGGGCATTAAAATGAATGTTTTAGGTCTTCATGGGCTCACATGGA
AAAATGTCCAGGACACCTGTTGGTTGAAAGAAGGAAGATGCAGAATAAAATGTATAGAAT
GATCCCATTTTTGAAAATTAAAATTACGTGACAAAGAAAAAAATAGGAATGAAGTGAATG
AATGGCCTGAAAGCATAGACGCCTGGCTCTTTCTTTGTTTTTTTTAAGAAGGAGTCTCGC
TCTGTTGCCCCAGGCTGGAGTGCAGTGGCGCAATCTCGGCTCACTGCAAGCTCCGCCTCC
CGGGTTCACGCCATTCTCCTGCCTCAGCCTCCCGAGTGGCTGGGATTACAGGCGCCCACC
ACCATGCCCAGCTAATTTTTTGTATTTTTAGTAGAGACGGGGTTTCACTGTGTTAGCCAG
GATGGTCTCGATCTCCTGACCTCGTGATCCACCCGCCTCGGCCTCCCAGAGTGCTGGGAT
TACAGGTGTGAGCCACTGCGCCCGGCCAAGACAACGGGCTCTTAACAGGGGTGGCCCAGG
GTGAGTATAGGAGCTACTGAGGTTTAAACTCAGGCGCGCCCTTCCTACCTCGCAAAACAA
TAAAACACGCATGCTTGGGGCCGGGCATGGTGGTTCATGCCTGTAATTCCAGCACTTTTG
GAGGCCTACGCGGGTAGATCACCTGAGGTCAGGAGTTCGAGACCAGCCTGACCAATATGG
TGAAACCCCATCTCTACTAAAAATACAACAATTAGCCAGGTGTGGTGGTGGGCACCTGTA
GTCCCAGCTACTCAGGAGCTCCTGAGACAGGAGAATCACTTGAACCCAGGAGGCGGAGGT
TGCAGTGAGCTGAGATCGCACCACTGCACTCCAGCCTGGGCGACAGAGCGAGACTCTGTT
AAAAAAAAAAAAAAGAAAGAAAGAAAAAAAAGTGCACGTTTTTTAGTTCTCTTTTAAACT
GCTGTGGGCATGGTTCTCCTCTTGTATTGCAGTTGCGTTTCTCTTAGCTAATGTCCCACC
TGGGCCTTGTCCTTGGCCTGGACTATAAGAGAGCGGAACTTGAGAATGAGAAATATTTTC
CTCTCGTGCTTGCTGGCTTAGGCCCTTAAAACTGGAAAGGGCCCACCTGGCTCCTAGAGT
TTCTAAAAATAGCAAGCTATCTGAACTTTTCCTATAGGTTTGGCTTAGCCGTTCCTCTGA
CTTGTTCCAAGATGCCATTTCTGTTAGGGCATCATTCGCTGTGCATGAAAACAAAGGATG
GCAGGAGACAGACTAGAAACGGAAGAGGACTAATCGGGAGCCGCTGCGGACAGAATCCAG
AAATGCCCTGCAAATGCAGACACAGTGGACGCAATGGAGAGTGCATACCAGGGCCTGTGT
CGCTGGTGGAGCTGGGGCCCACATGCCGCTAGTGTAGACAGGATCTCTACTCCACCCGAT
CTCTCTGCATCCACTCCAGTGCTTCGGGCAAGAGAGAGGAGTTTGGCTGCTGGTTTAAGT
GAGATGGGGAAATTGAAAGATTTGCATCCAAGGCCCATGCCTGGGGTCTGAATTCCTTTG
GAAGAGGACTGAGGACTGTTCAGGAGACGATTTTTGACAATCCAGACACAACCATAGATG
CTGTGGAACCAGTGGTATGCTGGCAAAGGTTTAGCAACCAGCTCTCCAAGGGAAAGTGAG
TGTGTGGTGCACAAGTGTGCATGGGCGAGTACATATATTTGCATATCCACACACACATAT
ACTTCGGTTTATTATAAATTGTATTGACGTAGGCTGGGCGCAGTGGCTCGTGCCTGTAAT
CCCAACACTTTGGGAGGCTGAGGTAGGTGGATCACTTGAGGTTAGGAGTTCGAGACCAGC
CTGGCCAGCATGGTGAAACCCTGTCTCTGCCAAAAATATAAAAAACTAGCCAGGCATGGT
AGCGGGTGCCTGTAATCCTAGCTATTTGGGAAGGTGAGACAGGAGAATTGCTTGAACCTG
GGAGGCGGAAGTTGCAGTGAGCCATGATTACGCCACTGTCCTCCAGCCTAGGCAACAGAG
TGTGACTCCATCTCAAAAAAAAAAAAAAATTGTTTTGATGTAAATGATGTGCAGCACACA
ATTTACAAATAAAAATAAAACTTACAATACCTTTTCTTTTATAAATGTAATATAATCATT
TCACTCACAGGTAGCAGTTTTGTTGATTTTTGCCCCCAGCAAAATCTGTAATCAACCTAT

FIG. 9KK

GGTTACAATTGATGAAGGAGTGTAATTCTTCAGAAATACCAGTTAATATTTTCCTTTCTA
AAAAATTTCTAATTATTTGTTTATGTATTTTTATTTTTTTGAGACAGTGTCTTGCTCTGT
GGCCCAGGCTGGAGTGCAATGGTGAGATCACAGCTCATGGCAGCCTCAACCTCTTGGGCT
CAAGCAATCCTCCCACCTCAGCCTCCTGAGTAGCTAGGACTACAGGCACGCACCACCACA
CTCGGCTAGTTTTTTCTCAAATTATTTGTAGAAATGGGGTCTTGTTATGTTGCCCAGGCT
GGTCTCAAACTCTTGGGCTCAAATGATCCTCCTGTCTCAGCCTCCCAAAATGCTGGAATT
ACATGCATGAGTCACCACACTCAGCCTTGACTACCTTTGTTTTTCATAGAATTTATTGAA
TTGTAAGTTCATATAATTTAATTTTTAACAATGGTGTGTTTAGCAACCCGTTCACCTAAT
TCCTGAAAATCTGACAATCAGCTTTCACAAGCTGGCACAAGCTGCCTCCAGCACACCTCT
GTCTGGGGACAACATGGCAAAGAATATCACCGAACTGAGGAGGAAGCCATTCTCTTCACA
TCTGCCCAGAACCCAGGGTATCTCAAGCACTAAACAGCGGGAAGCTTTGGGAGTTTACAG
AGATGGCACCATGGACGCTGCTGTGCTGGGCAGGGAAGCATCTCCAAATGGCCTCAGAGG
AAAGAGGAAGCAGGAAGGATGAATAAAACTAGAGACTGGTTCACAAAGGCACTCGAAATA
CCCCTTTGGAGCTCCCCAGGATGAACTGGGGGGACCCTGGGGGGGAGCACTGAGGTTCTGAT
GGGGAAAACCTCAGCAACCAGTGGGCATCTGGGCCAAATCACTTAGCACAAACGCTGAGC
CACAAAATCATGATACGCTTTCAACAACCCATTAGGCACCTCAGAAGCTGCAGGGCCATA
GGGTTGTTACAACCGACACCCATGCAGGTGGTACCACAGGCCATCAGTCCTTTTCCCCAA
GTCCACCTTCATTCCCGCCTCCTCCAGTACCATCCTGGACTTCTCTAGGGAAGTGGTGGG
GAGATTTACTCCTCTCCAAACTTCTTTTTTTTTTTTTTTTTTTTTTGAGACGAAGTCTCG
TTCTGTTGGCCAGGCTGGAGTGCAGTGGCACGATCTCAGCTCACTGCACCTCTCCCTCCC
CAGTTCAAGTGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGACTATAGGCACGCACCA
CCACGGCCAGCTAATTTTTGTATTTTTAATAGAGATGAGGTTTCACCATGTTGGCCAGGC
TAGTCTCAAACACCTGACTTCAGGTGATCCGCCTGCCTTGGCCTCTCAAAGTGCTGAGAT
TACAGGCGTGAGCCACCGCGCCCAGCCTCACTCCAAACTTGATCTTACTCTCAGACATCT
TACTCTCAGACGCTTAAGTTCTCAGTTCGGAACTTAAGCGCTCTTCAACCAGACTCATGG
AATCTCAGGGTTGCGGAGAGATTTTAGAGGTTTCCTGAAATAGTCCCTTTGTTTTAAAGA
CGAGGAAGCTGAGAGAAGGGAAGTGACTTGCTCAAGGTCACAGAGAAAATCCAGGGTGGA
ACTGGGTAGGGTGACCAATTGTCCCAGTTTACCTGGGACTGGGGGGGCTTCTGGACAAGT
TGCTCCCAGATCTGAGACCACAACTCAGGGCTGACTTGTCCCCAAGGTGGGTGGTGGGGG
GTTCACAGCCAGTCCCTGAAAGGAAAGGAGGCCTGGATCAGTACAGAGCTGCTTTGGGAT
GGAATTTTCCAAGGGAAGAAAAAAGAAAAGGCCACATCTGGGTGCTGGGACCTTTCACTC
TGGCCCGATGCCTGGAACCCCAGGGATTCCCCACCTGCTGTGTGTTTCCTGGCCCTTGAG
TGTAACCTGCACCCTCCCTTTCCGTGCCAGGGAGACACGAGCTGACTTTATCTGTCTCTT
ATCTCTTGGCTGCTGCCAGCCACAGCTGCAGGGATATATATGCAAATAGCTTACGATAAT
ATTAATATGTGATTCCCCCCAGGGGAGGCATGTGGAAAGCGCTGTATGCGTTTCACAATT
CTGTTTCATCCAAAAACACTGCACGGGCCCAGAGTGATTCGAAACAGATTTTCTGCAAAG
GCAAAATAAAATTGGAACAAAACCTAGTTGAGGCATATGCCAGTCTCCCTGCCCCCAGCT
CTCTCCACCTCTGACATATTAACCCTCTTCTCTCATGCCCCCAGGAGCCTCCTACGACAA
GGCAGCAAATCTAGGAAATTGCACTGGGCACTCTTCGTTCAAGCCTGGAGCCCCTGCCCC
ATCCCAGGGCAGCCAGCCTCCACCCTGGGCTGACACATCCTTTAGAGAGTAAAAGGCTGC
TTGCCAGTGTCAGCCTGTCACTCCTTCTGTCCCACCTCTGCCTCCTTCCTGCAGGTAATG
CTCCATCCATACCTCCTTCTCCTTCACCCCTGCTGCTTGGGATAATTGCAGAACCATGGA
GCACAGAATACAGAATACTGGGGGTGTACAGGAGAGTTTAGCCAAAGCAAGTCAGAAAAA
CCTAGGTCTTTTTTCGTTTCTGCCACTGACCGGCTGTGTGACCTCAGCAAGTCACTTCAC
TTCGCCCAGCTGCTGTTTCCTCAGGGTACAATGAGGACACCAATAATACTTACCCTGCAG
GGGGCTTACCGGGATTTCCCGAGCCGACGCTTCAAAAATGCCTACACAGTGCCTGGCGTA

FIG. 9LL

TAGCAGATACACAAGGAATAGCTGTCATCATGAGAATCTCTTAAAGATCACCTAGTTCAA
CCACTGTTTTAGAAACGGACAAATGGAGGCCTGCAGAGGGCAAATAACTTGCCTAAGGCC
ACACAGCACGATACCGCCATCCCATCTCAGCCTCAACCCAGGTTCCCTCCTCCGGCCTTG
GGAGCTCCAGGTGGCCTGTGAGGAACGGCTGCCTCCTCCTGTCACCCCCAGCTCCAGAAG
TCTGTCCACACAAGGCGGCGTCACGGCACACATGGGGAGCAGTCACTTCACACTCACCAT
CGAGCAGGTCTGGACACTCGAGTGCAGTCCCGCCGCCCTCCTTGCAGCTGCCTCACTTTC
CCTATTGCCGCCAGCAAGCGTCTGCTCCCATCTGGCCCGGGACTCCCGGACTCGAGCTAG
GGCTCTGCAAATTCCATCCACACTGGCCACCAGCCGCTGGTCCCGCTCTCTGGGAAGATC
GCCTTGAGGACCTGCTGCGCCCCGAGTCTTCCTTCTGGTGCAGGGAGGCCGGTGCCCTGC
CGGGCTCTGATAATGCAGCCGGGACTCTTATCTGGCCTGTGTCAGGGTGCAGGCGGCCAT
GGAGCTGGGGTTCCAGGAAGCCCTCCTGGGGCCCCCCAGCCGGCCCCGCTCCCCCCGGAT
GCCGCCTGCTGCTCTGGACGCGGCCGATTGCTTGTCAGTGTCACTCCCAGCTCTGCCGGG
GGGAATTCCATGCTGGCCCCCAGCAGGCGGGGCCCCCACCCCTTCACGTCCCACCCCCCA
CTCCCATTTTGGCAAGGGGACTGGGAAAAGGCAGCTAATTTCAAGTCCGCACAGCGTTTG
TGGTCGTGTCCTGAATCCTCCACGATTAATCACAGAGCATCTGATTTCTGCTTTGCCTCA
GAGAGGGGCGGAGGGGACGCCTGGAAGTTTCTGTTTACTCCATTCTGCACCAGGCTGCGT
GCTAATCACAAACAGACTGGGACGCAGCCTACCCCTCCTAAACTGCTCTTGGCCACCCCC
TCCCTCCTCCAGCCCTCTCCTTCCTCTTCTTACCTTGTCACTTTCCTCCAGCCCCTTCCT
CACTCTTTCTCCTTTCCCTCCTTTCTTTCCCCTTTCCCATCTGTCCGCCTCTTCAGTCCA
GATCTGATCCATTGCACACCCCTTCCTTCCGTCCTGGGTTTCCCCCAAGCCCCTTTCCCC
CTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTCAGCTTGGTTCTTTCCTTTACATCCAT
TAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTTTTTCTTTTGTATAACTTAATTATTTCA
GGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAGTCACACTGGTGTGTGTGCGACTCCTACA
AAGTTAACAGTTTCTCCAGGTCAAGGGGTGGGATCCAGGCTTGGTGATGTGCACAATTTC
TTTTGTCCACTTGACACATCTCTGCGTCCTGATTCTGCTCAGGGACGGACCCAAGAACAA
AGCAGCCATTTACCGCCTCCGGAGGGGAGGCCAGCCCTGTGGCACATCCAGGGCCTTGGA
ACACCTAGAGACAGATTTCTCTCCCTCGCCTTGGCTCCTTTCCACTCTGCAGCTAGTGTG
GAAAAGAAACCAGAAATAAACAGCACCAAAGAACAGGAACGGACACCCCTCCCCATTAAA
GCACACACACAGACTCTGAAGGGTAATTTGGCAAAGACCTCTGAAAACCAGAGATGAGGG
TCTCCTACTACTTATGCCTGTGCACAGGAGACAGGCACAGAGATGCTTGCTGAGAGCTGC
TTATCATAGGAAATGATGGGAAATAACTGAAATGCTCATCCAATAATGACTGCTTGAACA
AGATGTGAAAGATATGGTACATCAGGC

FIG. 9MM

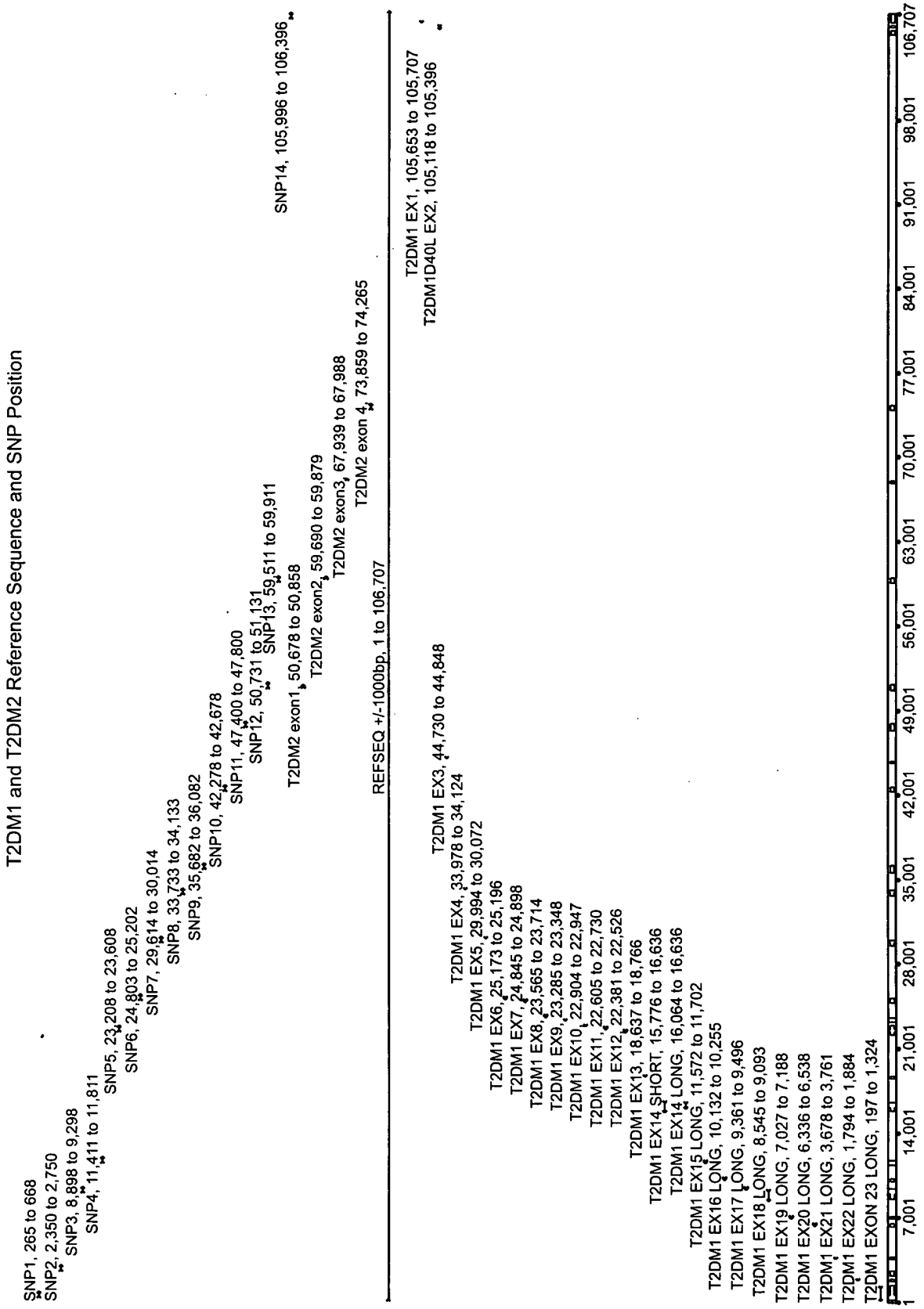
T2DM1 and T2DM2 Reference Sequence and SNP Position
SNP1, 265 to 668
SNP2, 2,350 to 2,750
SNP3, 8,898 to 9,298
SNP4, 11,411 to 11,811
SNP5, 23,208 to 23,608
SNP6, 24,803 to 25,202
SNP7, 29,614 to 30,014
SNP8, 33,733 to 34,133
SNP9, 35,682 to 36,082
SNP10, 42,278 to 42,678
SNP11, 47,400 to 47,800
SNP12, 50,731 to 51,131
SNP13, 59,511 to 59,911
SNP14, 105,996 to 106,396
T2DM2 exon1, 50,678 to 50,858
T2DM2 exon2, 59,690 to 59,879
T2DM2 exon3, 67,939 to 67,988
T2DM2 exon 4, 73,859 to 74,265
REFSEQ +/-1000bp, 1 to 106,707
T2DM1 EX1, 105,653 to 105,707
T2DM1D40L EX2, 105,118 to 105,396
T2DM1 EX3, 44,730 to 44,848
T2DM1 EX4, 33,978 to 34,124
T2DM1 EX5, 29,994 to 30,072
T2DM1 EX6, 25,173 to 25,196
T2DM1 EX7, 24,845 to 24,898
T2DM1 EX8, 23,565 to 23,714
T2DM1 EX9, 23,285 to 23,348
T2DM1 EX10, 22,904 to 22,947
T2DM1 EX11, 22,605 to 22,730
T2DM1 EX12, 22,381 to 22,526
T2DM1 EX13, 18,637 to 18,766
T2DM1 EX14 SHORT, 15,776 to 16,636
T2DM1 EX14 LONG, 16,064 to 16,636
T2DM1 EX15 LONG, 11,572 to 11,702
T2DM1 EX16 LONG, 10,132 to 10,255
T2DM1 EX17 LONG, 9,361 to 9,496
T2DM1 EX18 LONG, 8,545 to 9,093
T2DM1 EX19 LONG, 7,027 to 7,188
T2DM1 EX20 LONG, 6,336 to 6,538
T2DM1 EX21 LONG, 3,678 to 3,761
T2DM1 EX22 LONG, 1,794 to 1,884
T2DM1 EXON 23 LONG, 197 to 1,324
1
7,001
14,001
21,001
28,001
35,001
42,001
49,001
56,001
63,001
70,001
77,001
84,001
91,001
98,001
106,707

FIG. 10